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இலங்கை நிலைபெறுதகு சக்தி அதிகாரசபை
Sri Lanka Sustainable Energy Authority

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED 250 MW MANNAR WIND POWER PROJECT (PHASE II) ANSWERS TO PUBLIC COMMENTS MAY 2024



PREPARED BY



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0.PREAMBLE



Responses to comments on the EIA Report of the Mannar Phase II Wind Farm Project

0-PREAMBLE

1-Introduction

The EIA Consultants who were appointed by Sri Lanka Sustainable Authority (SLSEA) are responsible for the preparation of the EIA report for the Mannar Phase II Wind Farm project. They are also responsible for interpreting the Public Comments and provide scientifically valid answers to the Public Comments raised regarding the contents of the EIA report on behalf of SLSEA. Members of the EIA team have carefully gone through all the Public Comments contained in the 662 letters submitted to the CEA by individual citizens, Religious Institutes, State Agencies Community Based Organisations (CBOs) and non-governmental organisations and have identified the key issues raised in the comments.

2-The manner of responding to public comments

While carefully going through the Public Comments it was noted that many parties have raised common concerns. Hence, all common questions were identified, and answers given as **“1-Common Answers”**. These common answers form a part of this document called **“Common Answers”**. In providing answers to Public Comments, the relevant serial number of the **“Common Answers”** have been given as answers in addition to specific clarifications given where it was deemed necessary.

In case the Common Answers do not cover the question raised, specific answers were separately provided as **“2-Specific Answers”**. However, even under specific answers reference to the **“Common Answers”** have been given, to save repetitive text.

3-The Approach of the EIA Report Preparation

SLSEA wishes to state that as responsible professionals the group of consultants have given maximum effort to produce a report, after assessing the potential impacts from the Mannar Phase II Wind Farm Project, as scientifically, and accurately as possible. As a responsible organisation, we have not tried to hide unpleasant facts, or exaggerated the benefits of the project.

We believe that the EIA report provides a scientific and unbiased evaluation of the potential impacts from the project together with appropriate mitigation measures. We therefore believe that the scientific facts, and findings contained in the EIA report will facilitate decision making at the highest policy makers level regarding this project, after taking into consideration the environmental, economic, and social factors.

4-The Value of Public Commenting

We respect genuine scientific discourse, and encourage the stakeholders, and the public to actively participate in such discussions for the betterment of the EIA process. We believe that the public participation process within the EIA procedure provides an opportunity for such intellectual scientific debate and discussion to churn out the unvarnished truth.

5-Comments of no Intellectual Value

It is however noted that many of the public comments consist of theories and postulates which have no scientific basis but consist of emotional, semantical, and conjectural arguments which have little or no scientific basis, but personal biases and erroneous notions entertained by respondents. There are many repetitive comments where the same comment has been used by various parties' *ad verbatim*.

6-Breakdown of the Comments

The breakdown of the total 662 letters referred to the EIA team, based on the Language, commenter type (Individual/ organization/groups) is given below.

Table 1- Breakdown of Comment Numbers

Commentor Type	Number
Comment (662 Nos.) Breakdown as Individuals/Groups	
A-Comments by individuals	568
B-Comments by organizations and groups of people	94
Grand Total	662
Comment (662 Nos.) Breakdown on language	
Sinhala (Individual)	453
English (Individual)	114
Tamil (Individual)	1
Sub Total -1	568
Tamil (NGO/CBO/Other Groups)	79
English (NGO/CBO/Other Groups)	12
Sinhala (Groups)	03
Sub Total -2	94
Grand Total-(Sub Total 1+Sub Total 2)	662

Table 2- Details of letters

Letter number	Language	Groups/individuals	Remarks
1-45	37 letters in <i>English</i> 8 letters in <i>Sinhala</i>	Out of 37 English letters, there 33 individual letters and 4 group letters.	- Out of 33 individual letters there 09 identical copies. There are twelve facts indicated in those letters. Out of which 10 letters contain Dr. Sampath's paper article given under Item 7. - There is one English letter which contains a copy of the paper article ad verbatim. - There are four other letters which are identical copies.
46-332	This covers 287 letters written in <i>Sinhala</i>	Individuals	- The 287 letters written in Sinhala has been based on a newspapers article written by Prof. Sampath Seneviratne. - The 287 letters are identical copies carrying its date as 2024/03/02 signed by young individuals (age of 17-19 years) as observed from their NIC numbers. - The addresses of the individual show that they are residents from Thangalla, Ambalantota, Beliatta, Weeraketiya, Angunakolapellassa, and Hungama, in the Hambanthota district.
333 – 404	72 letters written in <i>English</i> .	Individuals	Seventy-two (72) Identical copies have been prepared based on a newspapers article written by Prof. Sampath Seneviratne.

Letter number	Language	Groups/individuals	Remarks
405	Letter in English	Group	A group called Youth Wing of the Wildlife and Nature Protection Society
406	Prof Sampath Seneviratne & the Team – <i>English</i>	Group	A copy of the letter No.41 Sent by them earlier.
407	One letter in <i>English</i>	NGO	Mannar - Bird Club
408	One letter in <i>Sinhala</i>	Individual	Dr. Panagoda (Ratnapura)
409	One letter in <i>English</i>	NGO (WNPS)	Wildlife and Nature Protection Society
410 – 565	156 Sinhala letters	Individuals	One hundred and fifty-six (156) individually sent letters with same contents similar to the contents of the letter numbers 46 to 332. Most of the commenters are from Colombo & Gampaha District.
566-587	22 letters in <i>Tamil</i> (Group)	5 letters sent by Mannar Citizen Committee & others are from Mainly Women Rural Development Societies, Fisheries societies, and churches	Same contents included all 5 letters sent by MCC.
588	Individual letter <i>Sinhala</i>	This letter is also a copy of the Sinhala bulk letters (46 to 332)	Mr. G. Jayalath (Pannipitiya)
589-620	32 letters - <i>Tamil</i>	05 letters sent by St. Joshep's church and others are from fishery organizations, CBOs, Religious groups, Sports clubs etc.	Most of the letters carry the same facts and concerns and they have been written opposing the project. (Copy of a letter written by Mannar Citizen Committee included.)
621- 624	04 letters in <i>Tamil</i>	Religious group, fishery organization, Hairdressers Association & Mannar Citizen Committee	Most of the letters carry the same facts and concerns and they have been written opposing the project. (Copy of a letter written by Mannar Citizen Committee included).
625- 628	04 letters in <i>English</i>	03 letters are from Groups & 01 from Individual	• Two letters are duplicates (Letters written by WNPS). • One is an individual letter which is an English copy of the Letter Nos. 46-332, 333 – 404, and 410 – 565

Letter number	Language	Groups/individuals	Remarks
			The other is a letter sent by group of Academics in the Faculty of Science (Different Departments e.g. Department of Veterinary science) of the University of Peradeniya.
629- 634	1 letter in <i>Sinhala (group)</i> 04 letters in <i>English (group)</i>	05 group letters	Sinhala letter received from Human & Environmental Resource Development Foundation (HERD) Again Dr. Sampath Seneviratne & the team resent their comments (Duplicate).
635 - 647	04 letters in <i>Sinhala</i> & 9 Letters in English	04 Sinhala letters and 2 English letters are individually written, and 7 English letters received as groups	Wildlife and Nature Photography Society, ENCM (University of Kelaniya), Nature Conservation by Rukmal, Centre for Environmental Justice, Association of Women Empowerment, Oriental Bird Club, Ceylon Bird Club were sent 07 group letters. Also, District Secretariate (Mannar) forwarded a letter written by Mannar Citizen Centre.
648- 658	11 Tamil letters	All are group letters, from CBO's	Citizen Committee in Mannar resent another 4 letters
659-662	3 letters are <i>English</i> & 1 letter <i>Sinhala (Group)</i>	02 individuals & 02 NGOs	Environment Foundation LTD in collaboration with FOGSL, MECS & Pearl Protectors sent 01 letter and other letter is a duplicate (re-sent by Wildlife Conservation Society in Galle.

It is also clear from the table above, that many of these letters were duplicates, suggesting a coordinated effort to adduce a supernumerary nature to the comments. For instance, the Citizen Committee-Mannar has sent nine almost identical letters, while numerous letters received from fisheries organizations has mirrored a single template.

There are 287 (letter no 46-179) copies one-page letters written in Sinhala by individuals. These are all photocopies of the same letter. The signatories are from Hambantota District and many of the signatories are in the age group of 17-19 years. There is another letter which is a copy of the letter cited above with a slightly different content, but the meaning is the same. There are 72 photocopies of one-page English letter which could be considered as an adaptation of the contents of the letter referred to in the earlier paragraph. There are 156 Sinhala letters which are slightly different to the 287 letters given above.

SLSEA has performed a sample check on the senders of these letters by visiting the given addresses in Maharagama, Kirulapona and Mattegoda they were unable to locate those addresses as the given house numbers in the addresses were non-existent. However, SLSEA will in future investigate these addresses and the senders' whereabouts to make sure the authenticity of these letters.

This pattern underscores a visibly widespread dissent against the proposed project, where various groups have echoed similar concerns, through collective/individual comments. However, a doubt has arisen about this act where comments on instigation, rather than on voluntary contributions could be suspected.

7-Misleading the Public

It is apparent that many of the comments have been based on an article published in the Daily Mirror newspaper dated 15 February 2024 titled **‘Serious Environmental Concerns on Proposed Mannar Wind Farm’** by Prof. Sampath Seneviratne of the Colombo University ([Serious Environmental Concerns on Proposed Mannar Wind Farm - News Features | Daily Mirror](#)), and on a post titled **‘Proposed Windfarm in Mannar is a Death Trap for Migratory Birds’**, which appeared in websites ([Proposed Wind Farm in Mannar is a Death Trap for Migratory Birds – Groundviews](#)) and social media. Various persons who contributed to the Public Comments, have culled details from this article. These concerns have also appeared on social media postings.

What has been published in the print media and social media by Prof. Sampath Seneviratne, are full of incorrect interpretations of the scientific facts, to erroneously point out that there will be intense bird collisions in the project area. The EIA Team has provided professional and scientific answers to controvert what has been stated by Prof. Sampath Seneviratne. Please refer to the “Common Answers” under the Public Comment for those answers among other things.

From the scientific interpretations of the EIA Team, it transpires that such public citations and the Public Comments, which have inheritance from those erroneous citations are purposely intended to mislead the public, and to bring disrepute to both the EIA team and the Project Proponent. It is a clear fact that certain learned persons having misunderstood or overlooked obvious facts reported in the EIA, and made wrong remarks on the EIA, erroneously going by the mistruths spread by Prof. Sampath Seneviratne in the media.

8-Lack of Understanding or Disregarding the Contents in the EIA and its Annexes

While few of the comments relate to the genuine concerns of responsible citizens of this country, most of the comments appear to have overlooked sections in the EIA Report / annexes that directly deal with the concerns raised.

The EIA report and annexes were opened to the public for 30 working days, to offer the opportunity to all those concerned to review the documents and point out shortcomings of the EIA, and to make further recommendations, in good faith.

However, it is shocking to note that this opportunity has been used to maliciously level **false allegations, by intentionally overlooking or misinterpreting statements in the EIA, and its annexes. Certain learned persons have misunderstood or overlooked the obvious facts reported in the EIA, presumably for personal gain, and to cut a dash. Such interpretations are unscientific as well as illogical, as explained in our detailed answer (Please refer to the “Common Answers”).**

One such examples relates to ‘wrong timing’. When the report has mentioned that the bird study has been done over a period of one calendar year, comments have been made repeatedly that the bird migratory season has not been covered. A one-year study would obviously cover, the bird migratory season.

More importantly such false, superficial, and rash comments raised, undermines the effectiveness of public commenting, which has been diligently allowed by CEA according to the stipulations of the National Environmental Act.

9-Withholding Data and Information

CAF Waterbird Tracking Project

- Since the EIA team has been repeatedly accused of not referring to a so-called report, also quoted by many others, by the name of **“CAF Waterbird Tracking Project”** of the University of Colombo, the SLSEA has taken a keen interest in officially requesting the very report or any other valid / published documents that is related to this purported study, from Prof. Sampath Seneviratne, the team leader of this project attached to the University of Colombo.
- However, there seems to be some reluctance to share the report. The request letters sent to the University of Colombo are attached to the “Common Answers” to the Public Comments.
- Although Prof. Sampath Seneviratne has not submitted an official written reply, despite repeated requests, he has verbally said to the SLSEA officers, that he would not furnish the report, as he has already provided his comments based on the study findings using his expertise and giving further details is not necessary.
- However, SLSEA has received a letter dated 20th May 2024 which SLSEA received on 03 June 2024. In this letter he has sent abstract type information on studies conducted for the Mannar region while not providing any information on the much-quoted CAF Waterbird Tracking Project by the University of Colombo. Please refer to attachments given under “Common Responses” for the said letter.
- It should be noted that only bits and pieces of the purported study is available under the Public Comments, including his comment (06 March 2024, Comment No. 41, 406 and 631 Annexure 1 to the comment).
- Meanwhile a reply letter (dated 17 May 2024) sent by Mannar Bird Club/Association for Women Empowerment states that their comment was based on publicly available sources. It further states that **they could provide further information only to the project evaluation agency.**
- It is very interesting to note the contents of his verbal and written replies against what he has quoted in his comments. Comment No 4-A summary of main concerns’, states as follows:

“The EIA report failed to consider the published and publicly available scientific data (Annexure 1) on bird movements generated by the GSM-GPS technology, which is the accepted global standard of migration studies. This information is available in the Vankalai Bird Observatory of the Department of Wildlife Conservation, and the annual conferences of SLAAS, IOB and KDU (See attached list of references).”

The EIA ecologists have checked some of the material quoted in the references and found that all those are abstracts without any information on detailed methodology used (such as the study period, frequency of data collection) and background data such as flight heights, and these details are essential to conclusively prove bird collisions. If the study data are in the public domain there is no reason to trot out verbal explanations given earlier to SLSEA without sending an official reply to the letter sent by the Secretary to the Ministry of Higher Education.

Had Prof. Sampath Seneviratne been honest in his approach he should have readily revealed all relevant data to the CAF Waterbird Tracking Project, that he has used to arrive at his present findings. His behaviour in this regard is unprofessional, unethical, and questionable. He is indirectly telling us to accept his unsubstantiated study findings. The EIA team has the fullest right to request the details of this study, as this study has been quoted to assail the findings of the EIA. He has not provided any arguments to controvert the findings of the EIA with specific reference

to its contents other than quoting his own studies. **It should be noted that the Bird Collision Study for the EIA, was done by the Faculty of Technology of the University of Colombo in collaboration with an international Avian Collision Modelling expert.**

Additionally, he has given patently wrong comments for example under “Even though the report has mentioned that there is a clear risk of flooding and coastal inundation the impacts of floods have not been considered in the report”. This is utterly false as flood impacts have been assessed using the latest technology 2D flood modelling. Please refer to Section 5.3.6.2 of the EIA Report. Also refer to the Answer 29 in the Common Answers. This shows that false comments have been given without properly reading the report.

- **Key parameters such as the elevation, GPS positions, data capturing frequency and many other parameters have been withheld**, which are very essential to conclusively prove whether there could be bird collisions. In that case, it is perplexing to note the citation of this study done by Prof. Sampath, by many external parties, to assail the EIA findings. Please refer to the Common Answers, 12-B, 13 15 for scientific answers to related to this study.
- The Public Comments of many parties (Please see the list below) as to why this study done by Prof. Sampath, was not used for the EIA, is a false concern by itself when the person who has said to have done the project has refused to provide it, despite the genuine official request by SLSEA.
- We reiterate that general statements made in Public Comments, articles and social media referring to the snippets of this study done by Prof. Sampath, cannot be used for the EIA study, without deeper details of it, for scientific analysis.
- However, we have provided answers to the comments which referred to this study done by Prof. Sampath, objectively and scientifically to assail the erroneous facts quoted by parties who used the snippets of this purported study.

The following parties have referred to the said study including many others.

- ✓ Centre for Environmental Justice (CEJ)
- ✓ Environmental Foundation Ltd. (EFL)
- ✓ Wildlife and Nature Protection Society (WPNS)
- ✓ University of Peradeniya Academics
- ✓ Mannar Bird Club
- ✓ ENCM Alumni Association University of Kelaniya
- ✓ Wildlife of Nature Photography Society Faculty of Veterinary Science university of Peradeniya
- It is very interesting to note the following citations from the letter sent by the academics of Peradeniya University with reference to the CAF Waterbird Tracking Project. (Letter No. 626 -CEA Reference)
*“The above information can be obtained from the research team of the University of Colombo, and it has already been presented in scientific conferences and is available to the scientific community.
It is of great concern why the EIA team (especially the biodiversity experts /ecologists who are affiliated to the University of Colombo) did not use this data in preparation of this EIA.”*
- Contrary to the tantalising statements given above, SLSEA could not find any formal information on the so-called study done by Prof. Sampath except for the bits and pieces that appeared in Public Comments and, the general media and the social media which are not of any scientific value for a rational interpretation. One example is the oft-quoted unscaled bird flight path map for the

Mannar Island, without elevations. Anybody with a commonsensical mind could grasp this lacuna, and this is not rocket-science.

- SLSEA has also requested the details of the said study from all the organisations given above and no replies have been received from the accusing parties. Please see the attachments to the “Common Answers” for the request letters.

10-Other Studies

- The SLSEA has also requested for the report that is said to have been conducted by NARA on the turbine noise impact on fish, which has also not been provided.
- The SLSEA has requested the bird monitoring report on the extension of Mannar Phase I Extension Wind Farm Project from the CEB, which we believe, might provide some information that would be useful for the Phase II EIA. CEB has stated that the details of this study could only be provided once it is concluded.

We have requested these reports to refute the allegations levelled against the Mannar Phase II EIA report, and for the use of information in them, for further improving the EIA Report. Withholding of this reports / information, which have been generated through public funds, seems to be intentional and such acts must be condemned.

All three organisations (University of Colombo, NARA and CEB) are Government organisations which deny important information to another government organisation (SLSEA). Not providing such information has deprived the SLSEA of providing a more professional accurate answers to the comments raised. If the answers provided, and the contents of the EIA is challenged in any forum, in addition to providing professional scientific explanations such unprofessional acts of withholding the available information will be cited as a defence.

A detailed answers to the available bits and pieces of the so-called CAF Waterbird Tracking project have been provided under the “Common Answers”.

11-The spread of the Myth that Latest Technology Should be Used for Studies Instead of Conventional Methods.

A myth spread by the traducers is that latest technology is a *sine quo none* for these types of studies. They degrade the naked eye bird observations and hero-worship satellite bird tracking, for example. It should be stressed that this cannot be true of every situation. In science, conventional methods are still successfully used in many disciplines such as ecology, engineering, medicine etc.

A very simple and classic example is the stethoscope, which is an utterly simple gadget, which is still in wide use in pathology. All latest technologies are not applicable in all situations. Only a genuine expert could decide on the appropriate method but not the pseudo intellectuals who misuse latest technology to hoodwink the public. The spurious has supplanted the serious. We have clearly explained in our answer, why satellite bird tracking cannot be readily used for a bird collision study of a local area, exploding this myth.

12-Overamplification of Bird Collisions

Although no scientific evidence is given to buttress the postulate, that there could be significant bird collisions, it is seen that the bird collisions are overamplified. One example is the use of the bird movement path diagram purportedly belonging to the CAF Waterbird Tracking Project (no scale to the map has been provided), which has been repeatedly used to justify bird collisions and to draw attention of the public to this issue.

However, our response clearly states that this unscaled diagram cannot be used to determine collision risks at all, since the height at which the birds are flying are not provided. This is common sense where no advance thinking is needed. Further, the overlaying of the turbine locations of the proposed project would show that many of the tracked routes do not fall within the Project Area, although they are related to the Mannar Island and its environs. However, such an overlay cannot be done without knowing the GPS coordinates of bird positions, the bird flight heights and the data capturing frequencies. These aspects are discussed in detail under the relevant sections of the common comments.

The mitigation measures such as the advanced radar system will be deployed by the Project Proponent, to reduce risks to a substantial degree. In the EIA we have not stated anywhere that the bird collision risk is zero. Overamplification of the risk, without a scientific proof is a professional jugglery by the commentators. Using such gimmicks to mislead unsuspecting public is another professional misconduct blatantly violating professional ethics. These so-called experts have failed to remove the chaff from the grain to arrive at the truth. What is needed is not a myopic, parochial pseudo approach, but a deep true scientific approach, to show the truth scientifically.

It is very saddening to note that no expert or organisation who has sent public comments based on Prof. Sampath Seneviratha's CAF Waterbird Tracking Project had the simple knowledge to check or ask the self-question, "Can we use these unscaled maps or bird flight paths to infer possible bird collisions with the turbines, without the simple and most important parameter which is the flight height?"

From these facts, we infer that these comments are unscientific comments with bias. These academics and organisations have been led by the nose by third parties.

13-Making False Allegations Based on Blatant Errors.

The EFL in its Public Comments has accused the EIA team of misconstruing information. However, this has been based on blatant mistakes made by the Environmental Foundation Limited (EFL). We wish to note that some of the comments raised by EFL is only relevant to the **Phase I Extension of the Mannar Wild Power project**, and **not to the preset EIA**. Some examples are given below.

- "The objective of the EIA is to comply with the requirements given in the ToR (Annex 1 of the EIA Report) and submit a comprehensive report with required information to the CC&CRMD for its perusal." – page 6, Objectives of the EIA report. - EFL Comment Page 4.
- "Hence, this process would not be impacted to the project related structures, as wind turbine locations are situated in the middle sections of dune structures (at least hundred meters away from the SW boundary zone of the existing sand dunes)." - EFL Comment Page 4.
- The EIA Report erroneously states that the project does not fall within 100 m boundary of a sanctuary or within 1 mile of a natural reserve under the Fauna and Flora Protection Ordinance. (EFL Comment Page 11)

It is very interesting to note that the above comments are not excerpts from the EIA report for the Mannar Phase II (The present EIA) but they are stated in pages x, 6 and 9 of the EIA Report Mannar Wind Farm Phase 1 Extension, which is entirely a different project in the region. These comments have been written with the contribution of leading 'experts', who have played the role of contributors. The environmental lawyer Dr. Jagath Gunawardena, and Prof. Nihal Dayawansa (Faculty of Zoology University of Colombo), are two of the contributors among others to this "Public Comment" which has clear provable inaccurate statements. Why did these educated people, with some social standing

become mere rubberstamps? There are many other comments which are wide off the mark, in the EFL comment. Please refer to the “Detailed Answer”, given to EFL for further details.

14- Quoting the Names of Universities

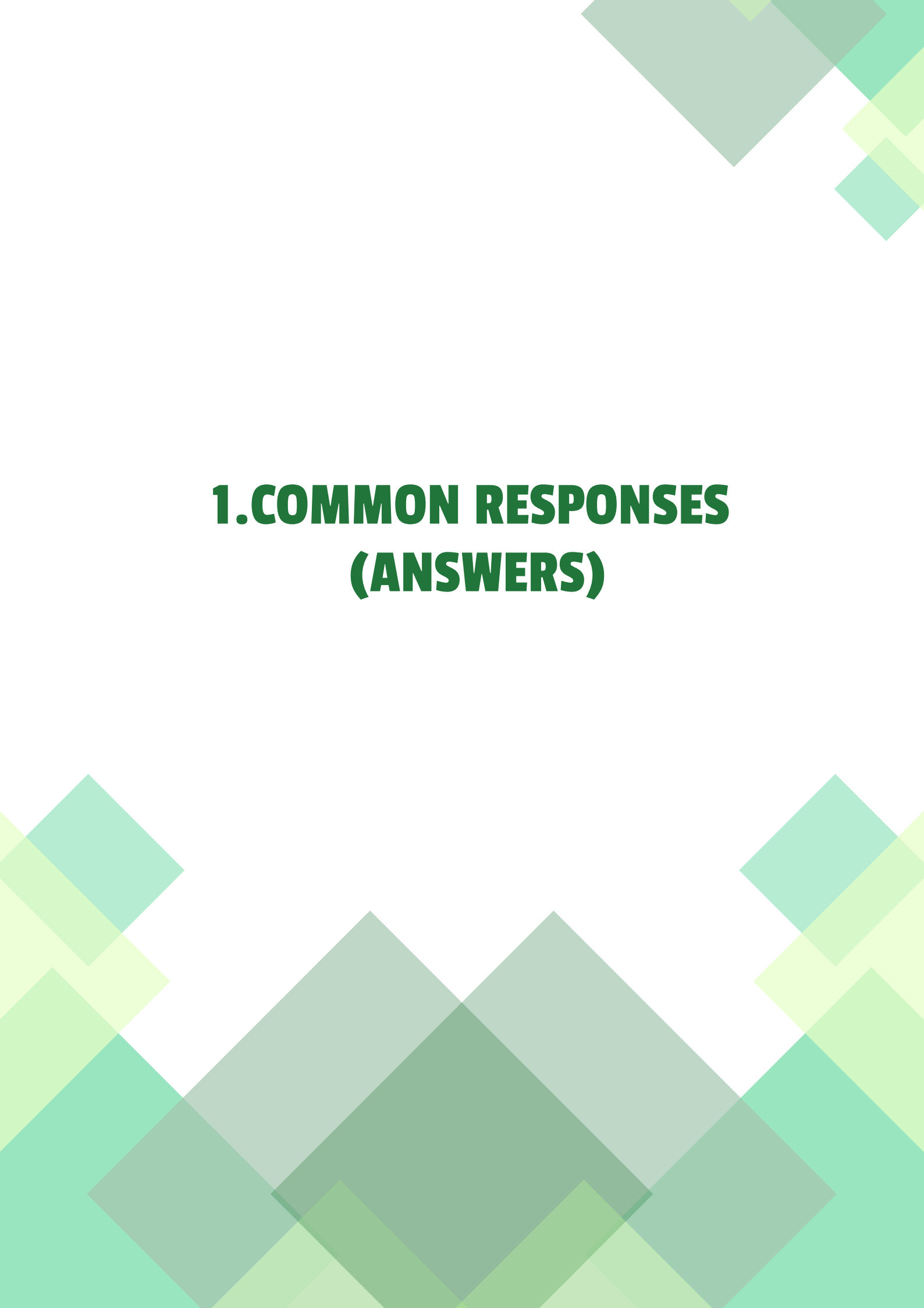
It is clearly seen that most of the commentators have quoted the names of the universities although they preset their personal or collective view. Even the most quoted “CAF Waterbird Tracking Project” has been quoted as one done by Colombo University. The idea of such quoting we presume is to give an additional weightage to the comments and to imply that the provided comments are of a high scientific value. However, as indicated under our detailed replies to the comments it is seen that most of such comments do not attach such a high scientific value.

14-Request to CEA

Request to CEA and Other Responsible Authorities.

We strongly request that the above issues should be addressed by the CEA (and other authorities), to ensure that such unprofessional acts will not be repeated in the future, allowing the objectives of the EIA process to be fulfilled with honesty and transparency, as the EIA Report is a legal public document.

As is expected of SLSEA, the responses to all the queries, concerns, allegations etc. relating to the proposed Phase II wind power project (even though some comments are conjectural), have been addressed professionally, scientifically, and objectively, under the answers to Public Comments, without any ulterior motive. The responses have been categorized under the Common Answers, according to the key broad issues which have been multifariously raised.



1.COMMON RESPONSES (ANSWERS)

1-Common Responses (Answers)

1. Lack of emphasis on the significance of the Central Asian Flyway (CAF)

We acknowledge the fact that the Mannar region is one of the southern-most destinations of the Central Asian Flyway which gives it significant importance as a location for migratory birds. Specifically recognizing this fact, the EIA process has devoted a lot of effort in terms of undertaking separate studies and surveys to assess risks to migratory birds (and to resident birds and bats), including modelling, and hiring of experts in the field to carry out these tasks. The emphasis on migratory birds in the EIA process and report is noted below.

- A one year dedicated avifaunal study was undertaken for the Mannar Phase II project (from September 2021 to October 2022). There were also previous and ongoing studies connected with the Mannar Wind Farm Phase I project that dates to 2014. Hence data, observations, analysis of the bird behaviour, bird collision patterns of existing Thambapavani wind farm and the transmission line from Nadukuda to Mannar has been used during the preparation of the EIA report. Therefore, preparation of the EIA report has been based on a site-specific data set that has been generated for the Mannar Phase II as well as Mannar Phase I.
- Most of the relevant literature on the Mannar Region and the Central Asian Flyway (CAF) were referred to.
- Experienced local and international experts have been deployed for the bird study.
- The project has considered the importance of both migratory and non-migratory birds and **totally avoided the critical habitats used by migratory and native birds for feeding and breeding** such as Erukkalampididi lagoon, Mannar Saltern, Vankalai Sanctuary, Vedithalathiu Nature Reserve including Korakulum, Urumalai (in Adams Bridge Marine National Park).
- A turbine free corridor spanning the Mannar island, was delineated from the very inception of the turbine design, well before the EIA stage (in the absence of any such paths being demarcated for migratory birds in the Mannar island). This corridor serves to maintain connectivity between the crucial bird sites Vankalai / Vedithalathiu and Korakulum, and Urumalai.
- Other sites identified as being important for birds were included in the 'exclusionary criteria (Refer Table 5-1 of the EIA Report) formulated initially, prior to the finalisation of the turbine locations. Under these protected areas, active and large sand dunes (important as bird soaring sites), large scrub patches, mudflats, coastal setback of 50 m, waterbodies and thonas were avoided.

Therefore, the EIA has in no way undervalued the importance of the Mannar region as an important location within the Central Asian Flyway, and a region which is important for migratory birds.

2. Disregarding Mannar as one of the richest migratory bird regions in the country; Not considering impacts on threatened sea birds/threatened terrestrial birds

We acknowledge the fact that the Mannar region is frequented by a massive number of migratory birds (1 million or more) which include some threatened (see birds and terrestrial birds) species. Nonetheless, recognizing the fact that the Mannar region has also been earmarked as a region for wind power development from 2007, as wind energy is one of the cheaper sources of renewable energy. The EIA team has made every effort to identify the overall impacts on birds and bats and proposed extensive mitigation measures to minimize the impacts on such species that utilise the project area. Reference to radar system and other measures to exclude important habitats have been detailed under the different responses given here. See section 4.3; Annexure 9 bird study.

3. Migrant birds are everywhere in the Mannar Island and its environs.

The 1-year avifaunal study for the Mannar Phase II project has reported on the movement patterns of birds in Figure 17 -Annex 9 Summary of findings of the avifauna study - movement patterns of birds in the Mannar island. It is indicated that typically a significant amount of bird movements takes place along the coastline (southern and northern). This is due to them being genetically programmed to do so. In fact, the movement along the coastline was the only observed directional movement of sea birds (including migrants). The turbine located nearest to the northern coastline (T43) is located 114 m away from the coastline. The turbines located nearest to the southern coastline (T59 & T5) are located at distances of 1.6 km and 1.75 km respectively.

Also, it is clearly stated that no significant pattern was found within the Mannar Island, except for the movements in and around wetlands such as mangroves and mud flats located in Urumalai (southwestern end of the Mannar Island), Erukkalampididi lagoon and the mangroves located on the north-eastern end of the Mannar island, Korakulum, Mannar Salterns and Vankalai Sanctuary and Vidathalithivu Nature Reserve. Please also refer to section 4.9 for further details on bird movement patterns in the Mannar island. It should be highlighted that none of the turbine locations fall within any of these areas which are known for bird congregation.

4. Reliance on short-term data for avifaunal study

We are unsure as to what this comment relates to since extensive bird surveys have been conducted in the area since 2014. The one-year study was only for ascertaining collision risks pertaining to Phase II. The used data are in no way short term. Following references have been used.

- Weerakoon, D. (2016). Consultancy Services for the Study of Impact on Local and Migratory Birds from the Proposed Wind Farms in Entire Mannar Island for the Submission to ADB and for Subsequent Clearance. Unpublished report submitted to CEB. 60pp (study period 2014 to 2016).
- Weerakoon, D. (2020). Consultancy Services for Conducting an Ornithological Study at Mannar Windfarm and Its Associated Facilities During Pre-Construction Period of 100 MW Mannar Wind Power Project Phase I. Unpublished report submitted to ADB. 33 pp.
- Weerakoon, D. (2021). Consultancy Services for Conducting an Ornithological Study at Mannar Windfarm and Its Associated Facilities During Construction Period of 100 MW Mannar Wind Power Project Phase I. Unpublished report submitted to CEB. 75pp.
- Weerakoon, D. (2022). Conducting a Bird Carcass Survey at Mannar Windfarm and Its Associated Facilities During the Operational Phase. Unpublished report submitted to CEB. 14pp.
- Weerakoon, D. (2023a). Conducting a Bird Carcass Survey at Mannar Windfarm and Its Associated Facilities During the Operational Phase: 6th Quarterly report. Unpublished report submitted to CEB. 16pp.
- Weerakoon, D. (2023b). Consultancy Services for the Avifaunal Study of the Proposed Mannar Phase II Wind Power Project: Report on the study of Birds. Unpublished report submitted to SLSEA. 78pp.
- Weerakoon, D. (2023c). Consultancy Services for the Avifaunal Study of the Proposed Mannar Phase II Wind Power Project: Report on the study of Bats. Unpublished report submitted to SLSEA. 44pp.
- Percival S. and Weerakoon D. (2016) Mannar Wind Farm, Northern Province, Sri Lanka: Avian critical habitat assessment – report submitted to ADB (46 pp).

- Percival S. (2016) Mannar Wind Farm, Northern Province, Sri Lanka: Avian collision risk assessment. Report submitted to ADB (53 pp).
- Percival S. (2018) Mannar Wind Farm, Northern Province, Sri Lanka: bird surveys 2018 and collision risk assessment update. Report submitted to ADB (80 pp).
- Percival S. (2023) Mannar II wind Park, Northern Province, Sri Lanka: Pre-construction bird surveys 2021-22 and collision risk assessment. Report submitted to SLSEA (29 pp).

5. Interference of noise on bird navigation and breeding sites

Breeding sites of some migrants with resident populations and resident birds are concentrated in the Adams Bridge area, Vankalai, Vedithalathiv, Korakulum etc. All these areas have been excluded as sensitive sites. In fact, the nearest turbine to a protected area boundary is over 1 km away. Thus, we expect any direct effect on birds in the protected areas waterbodies and protected areas to be substantially reduced.

Terrestrial birds may nest in scrub patches within the island or near the coast. The large scrub patches within the island have been avoided. The turbines have been placed in private lands with low bird presence. We note that the background noise levels in the project area are high due to noises of breaking waves in the sea and wind blowing action on different surfaces (dune, sea, surface waters and trees). Thus, fauna do experience some level of disturbance from noise and should be hence accustomed to it to some degree. Nonetheless, some impact would be inevitable.

The following research shows a general picture of wind turbine noise that provides a balanced view on the impacts and birds' their ability to get accustomed to turbine noise. This research has been conducted on a single bird species in a foreign country and this cannot be directly related to the present study. However, it has quoted many other references that will be relevant to the present study.

Wind farm noise shifts vocalizations of a threatened shrub-steppe passerine. Julia Gómez Catasús, Adrián Barrero, Diego Llusia , Carlos Iglesias-Merchan , Juan Traba

Source :[Wind farm noise shifts vocalizations of a threatened shrub-steppe passerine - ScienceDirect.](#)

6. Terrestrial resident birds not properly covered in the report.

The report has adequately dealt with terrestrial, migratory, and residential birds, with comprehensive lists and mitigatory measures being provided.

- Annex 9 has extensively analysed risks on residential birds.
- The vantage point surveys, and block counts done for the one-year bird study recorded all birds, both residential and migratory birds. The collision impact survey was based on vantage point surveys and therefore covered all birds recorded in the project affected area. The bird study report has identified birds that were observed to fly in the compact zone (see Annexure 9 table 2), their habitat usage (see Annexure 9 table 5) and predicted annual number of collisions by the proposed project as well as the cumulative predicted annual number of collisions from Manar Phase I, II and transmission line (see Annexure 9 tables 6 and 7). All these analyses included resident and migrant birds alike.
- The report has been transparent in reporting the numbers of raptors (and any other residential birds) that have been killed as a result of the earlier Thambapawani Phase 1 project.

- Several mitigatory measures that are aimed at mitigating adverse impacts on resident terrestrial birds have been set out in the report and in Annex 9.
- All fishery landing sites have been avoided as one of the issues with Thambapawani Phase I was the death of many Brahminy kites that collided with the turbines when they were attracted to the fish that were discarded at such sites.
- With respect to collisions with transmission / cables lines of terrestrial / residential / migratory birds, this will be eliminated as the present EIA recommends that these should be laid underground. Read response 45 for further elaboration on this.
- Large sand dunes where soaring raptors were observed have been excluded during the micro-siting exercise.
- All Protected Areas (Pas) have been left untouched.
- The large scrub patches have been left untouched. Some land that are presently being cleared or run the risk of being destroyed soon, will be acquired by the state. We propose that some of these areas are also conserved for natural regeneration to occur or for replanting. See Response 19 for further elaboration.

7. Obstruction of bird migratory routes of birds / jeopardizing the access to the southern-most landing site

The one-year avifaunal study for the Mannar Phase II project has reported on the movement patterns of birds (Annexure 9 summary of findings of the avifauna study - Figure 17 – movement patterns of birds in the Mannar island). Here it is indicated that the birds move mostly along the coastline. In fact, this was the only observed directional movement of sea birds and a few shore birds. Also, it is clearly stated that no significant movement of bird patterns of birds within the island except for in-and-around waterbodies such as Erukkalapiddi (Vankalai / Vedithalatiu) and Korakulum, Urumalai (in Adams bridge).

Refer section 4.9 for further details on bird movement patterns in the Mannar island. It should be highlighted that none of the turbine locations fall within any of these areas.

8. Inappropriateness of the proposed corridor for birds without any scientific basis

There is no published document / information which relates to the critical migratory path within the project area within the Mannar island. It is accepted that the project area is located within the general Central Asian flyway. The EIA recognized the importance of the Mannar island for migratory birds, and even in the absence of published documents has taken a proactive step to set aside a 1 km wide x 11.26 km (total area 11.26 km²). This was not done arbitrarily – this corridor maintains continuity between Urumalai (in Adam's bridge) with Erukkalapiddi (Vankalai / Vedithalatiu) and was intended to serve as a flight path for birds between the two areas. The delineation of the aerial corridor would give an added advantage by preventing future high rise infrastructure in this strip of 11.26 km². Such an ecological corridor would be essential in Mannar island where development is occurring unabated, whether it is wind farms or any other infrastructure. The EIA team strongly believes that marking this area was more beneficial than leaving no such corridor areas at all.

With respect to movement of birds across the island (north – south), to reduce barrier effects we have recommended cables which could obstruct bird movement, be laid underground.

9. Locating turbines within the marked corridor for birds

This was pointed out at the meeting with the DWLC, and the turbine removed from within the proposed corridor. The correct maps showing the distribution of the towers have been provided in the EIA report. It is seen that **no turbines are located within** the proposed corridor. The avifaunal study undertaken by the University of Colombo which commenced a year prior to the proposed project was done for the locations proposed by the client in the original layout, some of which were within the corridor. Nonetheless, during the field visits, the team based on their expert review, removed the towers from within the corridor, and hence at present the finalized design does not contain any turbine locations within the marked aerial corridor.

10. Peak migratory season not covered.

It seems that the readers have overlooked sections of the EIA report which clearly states that the bird study covered the migratory season.

- Under section 1.4.9 it is mentioned that the avifaunal study covered a period of one year (12 months) thus indicating that the migratory season was covered. In Sri Lanka there are only two seasons within a year, with respect to birds, which is the migratory season from September to April, and the non-migratory season during the other months.
- Also, it has been mentioned under sections 1.4.8 on Ecological studies, that the data from a long-term study has been used to infer impacts on birds.
- In the Annex 9, under the Summary of the findings of the avifaunal study, it has again been clearly mentioned that the study was conducted during September 2021 to October 2022, and it also states that sampling could not be done only in July 2022 which falls in the non-migratory season.

Thus, information given in the EIA report covered the migratory season.

11. Nocturnal bird movements not addressed.

- The study was conducted only from 0600 to 1800 hrs excluding nighttime for a valid reason. Nocturnal observations from vantage points were conducted for 10 months (March 2019 to January 2020) for the Thambapavani wind farm. This study was found to be not effective given that birds and bats flying overhead cannot be identified accurately after dark leading to erroneous data. This was so even during moonlit nights. Further, this study has shown that there is very little bird activity during the nighttime.
- There are many public comments to the effect that satellite observations have not been used to predict the nocturnal movements of birds. The limited satellite data provided in the bird movement map (claimed to be prepared under CAF Water Bird Tracking Project) given under many public comments and on social media does not give any information with respect to the movement of birds at night (it should be noted that this map only shows total movement patterns of birds and has not separated the data to daytime and night time movements in order to prove that there is movement at night) and therefore that cannot in anyway be used to interpret the movement of birds at night.
- Finally, absence of nocturnal data in the bird study therefore, would not pose any drawback since the proposed extensive mitigatory measures (including the recommendation of sensitive and flexible radar systems with a long and short distance coverage – See Annex 5.1 proposed early warning systems for reducing bird collisions) which sought to reduce risks to birds that move over the region both at night and during the daytime, and throughout the year.

12. Inadequacies in the use of available technology and satellite data for bird studies/ not using globally accepted technology for the study of bird movement.

A. Avi step not used.

- The Avi step, which is a technological tool used for spatial assessment sensitivity with respect to avifauna, is undoubtedly a good tool for identifying ecologically sensitive zones during wind development. However, this tool should be used to carry out an analysis at program level rather than project level and therefore should have been part of a Strategic Environment Assessment rather than at EIA level.

The grid considered in the tool is $5 \text{ km} \times 5 \text{ km} = 25 \text{ km}^2$. Thus, entire Mannar island would comprise only around 5 such. It should be noted that the selection of the project area was based on a macro-level screening where all sensitive areas (e.g. PAs/ coastal setback) were excluded. In addition, the existing Thambapawani project area was also avoided. Thus, the area that requires to be assessed would be even lower. The wind turbines for the proposed project are only spread in around 50 km^2 which will only be equivalent to around two grids of Avi step and therefore the area will not be large enough for a meaningful analysis.

Thus, using Avi step would not be appropriate for such a small-scale project. Rather, ground level screening which has been extensively done during the EIA process, was far more suitable as it resulted in abandonment of some turbine locations and micro-siting of many others. This we believe generated more precise information with respect to fine tuning the present wind power project.

B. Available satellite data not used.

- We have searched the public domain but were not able to find any credible and useful information relating to the project. The information available on social media is not peer reviewed and lacks scientific credibility and is hence, not suitable to be used as evidence in a technical report such as the EIA. We have restricted the literature review to commissioned reports or published papers that were available in the public domain.
- In the public comments, since several concerns have been raised with respect to the CAF Water bird Tracking Project, University of Colombo, for which we did not find any detailed information. We through SLSEA have requested for this (or any other valid documents with relate to bird movements in the project site) from the University of Colombo (and the author). The SLSEA has officially requested this information from the Vice Chancellor, UOC copying it to the study coordinator (Prof. Sampath Seneviratne) and SLSEA has not received any document or supporting evidence, with respect to this study yet.
- Prof. Sampath Seneviratne in his letter given as a Public Comment on 6 March 2023, has listed some references, but he has not referred to this so-called CAF Water Bird Tracking Project at all, although many other parties have cited it to discredit genuine bird studies that has been undertaken through the University of Colombo itself for the EIA.
- The reluctance to provide information even when officially requested, casts serious doubts as to the existence, and the authenticity of such a report, lending credible scientific and professional information to show incontrovertible and conclusive evidence on possible bird collisions in the proposed wind turbines in the Project Area. Please refer to Attachment 1 for the official letters which have been sent by the SLSEA to the UOC and the reply letter by Prof. Sampath Senevirathna.

- Meanwhile a reply letter (dated 17 May 2024) sent by Mannar Bird Club/Association for Women Empowerment states that their comment was based on publicly available sources. It further states that they could provide further information only to the project evaluation agency. Refer Attachment 1A for the reply sent by Mannar Bird Club/Association for Women Empowerment.
- We however received an A4 size figure as an annex in Prof Seneviratne's comment as well as many public comments that refer to the so-called CAF Wetland Bird Tracking Project, as evidence to in their argument, the project poses a significant collision risk to the birds in the Project Area. The map provides only a misleading postulate on bird collision, if not deeply and scientifically analysed.
- Since the said map (map generated by CAF Water Bird Tracking Project) has been used in several presentations the ornithologist of the EIA, Prof. Devaka Weerakoon is fully aware of the existence of this map and the satellite tracking study. However, these maps were not used interpreting collision risks posed by the proposed Mannar Phase II project as the information provided in these maps are of limited value due to the reasons discussed below.

We would like to point out that the interpretation of these maps to demonstrate that there is a significant collision risk to the birds and the claim that the study team did not use latest satellite tracking technique to estimate collision risk is based on lack of understanding of the pros and cons of satellite tracking technology and failure to critically analyse the maps (map generated by CAF Water Bird Tracking Project) using accepted scientific methodology. The shortcomings observed in the interpretation of these maps are as follows.

- The mere presence of the bird is not indicative of any collision – For example, according to the map provided by Prof Seneviratne claiming that it has been developed by the Avian Science Laboratory, the Brown headed Gull (two of the 21 birds which have been tagged) is shown to use the area where the present Thambapavani wind farm is located quite extensively, although no birds of this species have been killed due to collision with turbines based on the weekly post construction collision monitoring surveys conducted for the Phase I, Thambapavani wind farm. However, presence of this species has been confirmed by the vantage point surveys. The Brown headed gull has been also recorded in the area proposed for the Mannar phase II. Further, Prof Seneviratne has also not reported that any of the two birds have collided with the wind farm and therefore presence of birds alone cannot be considered as a risk.
- A closer inspection of the map produced by Prof. Seneviratna shows that only five out of the 11 species or 10 out of the 21 individuals tagged show movements within the proposed wind farm area. Further analysis of the map shows that even for these five species when comparing the movements within the project areas with the overall movement of the species indicate that only a small fraction of their overall movement takes place in the project area. The movements outside the wind farm area have very little value to ascertain collision risk as collision can only take place if the bird flies within the area where wind turbines are located. Therefore, the claim that this map provides evidence to show that there is significant bird movement in the project area based on satellite tracking data cannot be considered as a cogent argument.
- Further, satellite tracking which is one of the best methods to study long range movement patterns of animals it is not suitable for ascertaining collision risk in a wind farm that has a small footprint. A more suitable method for studying bird movements in a small area such as the proposed wind farm will be radar-based tracking which will provide even more accurate

data compared to satellite based tracking. However, such Radars are very expensive and therefore is not cost effective to be used for short term collision assessments.

- Some of the satellite tagged species use the area where the Phase I towers have already been established (Thambapawani) which make it clear that the birds are still using areas with the turbine towers without coming into collision with the towers. This was confirmed during the bird survey conducted for the project.
- The map does not provide any information on the elevations that have been used by the birds, hence does not provide information on the level of risk posed by the turbines.

The height of bird movements which is a very important consideration in calculating collision risk cannot be accurately determined as the error level in the altitude determination is high for satellite tags, as birds continuously change its altitude during the flight. This is further confirmed by the fact that two brown headed gulls monitored in Prof Senvirathna's study show frequent movements in the currently operating Thambapavani wind farm area without coming into Collision with any of the 30 turbines that are operative in the wind farm. Therefore, establishing presence alone is not a good determinant of the collision risk. On the other hand, visual observations make it possible to estimate the flight heights of birds more accurately as well as to record the flight height of all the birds observed as opposed to tagged birds only if satellite-based tracking was used

- The maps are drawn at a very high scale (although not mentioned in the figure) and lacks resolution to superimpose with a Mannar Island map with a workable accurate scale to determine the overlap with the turbine locations, and to estimate the probability of bird collision.
- When the map is expanded, much of the tracking lines fall along the beach and nearshore (in the sea) areas, and hence this would not be relevant to the project. The Phase 11 wind power project itself has excluded over a 50 m strip as a coastal setback to provide for passage of these birds. The nearest turbine located to the coast is 110 m.
- The satellite-based tracking only provides information about the tagged animal, and this cannot be extrapolated to other species. Since there are large number of migratory and resident species present in the project area, to get a clear understanding more than 150 species of migratory birds and resident species that have a likelihood of collision must be tagged and monitored. Further as the tag has a very short lifetime to understand seasonal variations in flight patterns a given bird may have to be retagged many times, which is difficult task as capturing a tagged animal to replace tag several times is not an easy task. On the other hand, visual observations allow the detection of all the bird species that are present within the project area as well as their seasonal flight patterns. Satellite tagging will only provide an idea about the movement patterns of the tagged animal. However, whether the tagged animal moved in a solitary manner or as a flock and if so, flock size cannot be determined by this method. On the other hand, capturing such data is possible when using visual based techniques.
- The satellite tag provides a location data (Latitude, Longitude and Altitude) at a defined time interval (e.g. 1 per hr). It should be noted that the lifetime of the tag will be inversely proportional to the frequency of data collection. The movement map is developed by marking the coordinate (Lat and Lon) on a map and connecting the successive data points. It should be noted that the Lat, Lon and altitude data provided by the satellite tag has an error and the magnitude of the error is inversely proportional to the size of the GPS unit. Generally, the weight of the satellite tag must be less than 5% and therefore smaller birds will have smaller units which will increase the error of the datum.

However, if the tag is used to monitor the movement of a highly mobile species this error is not significant. Further, when the movement pattern map is developed it is assumed that the animal moves between two points in a direct line which may or may not be true. The magnitude of the error arising due to this assumption increases with the time interval between two data points. It is a common practice in studies using satellite tags to track animal movements to plot location data with straight lines when developing movement maps.

Further, when studying long range movement patterns this error becomes negligible. However, the data capturing frequency is essential to interpret the accuracy of such maps. Since the data emitting frequency and the period of tracking has not been given which are important parameters to determine the accuracy of the bird's flight trajectory shown in the bird movement map quoted by Prof Seneviratne and others, these maps are of limited value when interpreting collision risks.

This is especially important when it comes to using satellite tag-based movement data to determine collision risk within a relatively small area as in the case of Mannar Phase II wind farm where all the turbines are spread over an area of less than 30 km².

Only the paths for individual birds have been presented and their gregariousness (i.e. the flock behaviour) cannot be predicted with such solitary bird tracking path. Flock behaviour will be crucial for a bird collision exercise.

Therefore, during the bird studies conducted for the Phase 11 wind farm, the use of satellite-based tracking was considered but not opted for as this method has many drawbacks when it comes to ascertaining collision risk to birds by a wind farm which are discussed below. Therefore, visual observation-based techniques were used as they are deemed more reliable, and these methods are internationally accepted for collision risk assessments.

13. Information available on migratory birds not used / inadequate literature survey

A total of 33 references for the project which directly deals with the impacts on birds have been cited in the report. It is well known that the Mannar region serves as an important location with respect to the Asian Flyway and hence this has been already recognized in the project report as evident in the following sections.

- Section 3.4.5 paragraph 2 'Avifauna in the Mannar region' where we have also provided a figure showing the routes (Figure 3-28). We have stated that this region is important.
- For this reason, we have dedicated an entire section to giving details of the impacts (Section 4.3.1) and mitigatory measures (section 5.3.5.3, 5.4.1.1 and 5.4.1.2).
- In fact, the bird collision risks have been identified as one of the major impacts during the internal scoping exercise, and hence it has been taken into consideration at the design stage where, based on our recommendation, avifaunal detecting mechanism / system and control mechanism has been incorporated into the design. (See Annex 5.1 propose early warning systems for mitigating early collisions)
- As a precautionary measure, the impact on birds (collision in particular) has been ranked as one with a very high impact (indicated in red) during the internal scoping exercise, to indicate the importance of mitigating the risks. This was, however, contrary to the calculated risks that were low. (see section 4.1.1)
- In the Environment Management Plan (Annex 6-1) OPR 6 relates to the management of bird collision risks.

- In Section 7.1.3, Operation phase bird/bat collision monitoring, we have covered all aspects relating to bird collisions (monitoring and reporting).
- Some towers were removed, or micro-sighting was done to avoid areas which were already established as important for birds e.g. mudflats, active sand dunes with potentially high risks for soaring birds, birds / bat roosting sites, waterbodies (see Table 5-1 section 5.1.1)
- We have mentioned the possible barrier effects that might arise owing to the wind power turbines although this would apply to all turbines in several projects that are planned in the Mannar region.
- Many other accounts on the Asian flyway are general and would not add any additional information than what we already know in relation to the project. None of the 11 (as one has been repeated) that has been quoted as references, as being relevant in the by Prof. Sampath, Seneviratne are research papers. These have been published as abstracts lacking any information on the technical details required for the present EIA study.

It must be reiterated that the information available on social media is not peer reviewed and lacks scientific credibility, and hence, they are not suitable to be used as evidence in a technical report, such as an important EIA like this. We have restricted the literature review to commissioned reports or published papers.

14. Measures to reduce bird collision risks inadequate.

A. Poor radar detection technology

- Phase II has recommended a much more advanced radar system in comparison to that of Phase I. The radar system that is recommended is much more flexible – spot monitoring - radar systems with long and short distance coverage. See Annex 5.1 which gives details of the proposed early warning systems for reducing bird collisions, which will reduce risks to birds that move over the region used for establishment of the wind farm both at night and during the daytime, and continually throughout the year.
- The radar based early warning system for mitigation of bird collisions will be installed to cover the entire project area, it uses a multi sensor bird detection system followed by curtailment action at the plant and turbine level implemented by the integration of the system with the Supervisory Control and Data Acquisition (SCADA) software of the wind turbine generators. The system is integrated with a long-range detection (10 km) coverage, medium range detection (2-3 km) and close-range identification (1 km) upon which the decision of the turbine blade movement is based.
- This permits Shut Down on Demand (SOD). This secures a viable response time for slowing down the rpm to less than 1 revolution before the bird reaches the rotor blade. The system has inherent sensitivity, and the operators must take full advantage of this technology.

B. Other measures

Avoidance of critical habitats as mentioned below.

- The project has considered the importance of both migratory and non-migratory birds and **totally avoided the critical habitats used by migratory and native birds for feeding and breeding** such as Erukkalampiddi lagoon, Mannar Slatern, Vankalai sanctuary, Vedithalathiu nature reserve including Korakulum, Urumalai (in Adams Bridge marine National Park). In fact, the distances to turbine location from the nearest Pas are as follows.

Vankalai – T22 – 1.45 km from the boundary; Adambs bridge – T59 – 1.6 km from the boundary; Korakulum – T23 – 6.6 km.

- **A coastal setback of 50 m has been avoided. In fact, the** nearest turbine location is 114 m from the coastline (T43 northern line, T59 and T5 – southern line 1.6 and 1.75 km, respectively).
- Several exclusion criteria to avoid sensitive habitats were followed during micro siting (see section 5.1.1 – Table 5.1)
- Recommendation to have underground power lines would considerably reduce collision risks.
- Use of bird deterrents – visual and acoustic
- Electrocution hazard mitigation of power lines (other for small, selected sections)
- Aerial corridor (11.2 km²) to link important bird locations.

15. Poor design / inadequacy of avifaunal assessment/collision risk assessment

A. The study has been conducted by two experts in the field.

The avian studies pertaining to the proposed wind power project was conducted by Prof. Devaka Weerakoon, under a project assigned to the Technological Faculty of the University of Colombo. He has served as an ornithologist in many surveys/studies for different developmental projects in the country and has over 35 years of experience in the field as an ecologist. Further, Prof Weerakoon and his team has conducted collision assessments for the Thambapavani wind farm and has been studying birds of Mannar continuously for 10 years starting from 2014. The following studies conducted by Prof. Devaka Weerakoon demonstrates his experience in the field and specifically with respect to the birds in the Mannar region.

- Weerakoon, D. (2016). Consultancy Services for the Study of Impact on Local and Migratory Birds from the Proposed Wind Farms in Entire Mannar Island for the Submission to ADB and for Subsequent Clearance. Unpublished report submitted to CEB. 60pp (study period 2014 to 2016).
- Weerakoon, D. (2020). Consultancy Services for Conducting an Ornithological Study at Mannar Windfarm and Its Associated Facilities During Pre-Construction Period of 100 MW Mannar Wind Power Project Phase I. Unpublished report submitted to ADB. 33 pp.
- Weerakoon, D. (2021). Consultancy Services for Conducting an Ornithological Study at Mannar Windfarm and Its Associated Facilities During Construction Period of 100 MW Mannar Wind Power Project Phase I. Unpublished report submitted to CEB. 75pp.
- Weerakoon, D. (2022). Conducting a Bird Carcass Survey at Mannar Windfarm and Its Associated Facilities During the Operational Phase. Unpublished report submitted to CEB. 14pp.
- Weerakoon, D. (2023a). Conducting a Bird Carcass Survey at Mannar Windfarm and Its Associated Facilities During the Operational Phase: 6th Quarterly report. Unpublished report submitted to CEB. 16pp.
- Weerakoon, D. (2023b). Consultancy Services for the Avifaunal Study of the Proposed Mannar Phase II Wind Power Project: Report on the study of Birds. Unpublished report submitted to SLSEA. 78pp.
- Weerakoon, D. (2023c). Consultancy Services for the Avifaunal Study of the Proposed Mannar Phase II Wind Power Project: Report on the study of Bats. Unpublished report submitted to SLSEA. 44pp.
- Percival S. and Weerakoon D. (2016) Mannar Wind Farm, Northern Province, Sri Lanka: Avian critical habitat assessment – report submitted to ADB (46 pp).

The bird modelling for the present project has been done by Dr. S. Percival. His input was also taken when drafting the final report. The studies by Dr Percival conducted in the Mannar region prior to the present project are given below.

- Percival S. and Weerakoon D. (2016) Mannar Wind Farm, Northern Province, Sri Lanka: Avian critical habitat assessment – report submitted to ADB (46 pp).
- Percival S. (2016) Mannar Wind Farm, Northern Province, Sri Lanka: Avian collision risk assessment. Report submitted to ADB (53 pp).
- Percival S. (2018) Mannar Wind Farm, Northern Province, Sri Lanka: bird surveys 2018 and collision risk assessment update. Report submitted to ADB (80 pp).
- Percival S. (2023) Mannar II wind Park, Northern Province, Sri Lanka: Pre-construction bird surveys 2021-22 and collision risk assessment. Report submitted to SLSEA (29 pp).

Dr Percival has served as an ecology consultant for wind farm developments in the UK and Ireland. He has experience in over 360 projects encompassing both onshore and offshore installations. His expertise includes the design and implementation of bird and habitat surveys, as well as conducting ornithological and ecological impact assessments for wind farm projects.

He has a wealth of experience in developing habitat enhancement proposals to mitigate environmental impacts associated with wind farm developments. He has conducted over 30 Habitats Regulations Assessments for both onshore and offshore wind farms, demonstrating his proficiency in navigating regulatory frameworks.

He also has a strong academic background, with 93 research articles credited to his name on Google Scholar, reflecting his contributions to the field of ecology. His research has gained significant recognition, with 1364 citations according to Google Scholar, highlighting the impact of his work within the scientific community.

Thus, it is very clear that the report has been drafted by the two experts in the field.

B. Use of pre-tested and standard methods for avifaunal study

- It must be noted that globally accepted methods such as vantage point surveys to assess potential collision risks, and block counts (in grids) for assessing possible displacement of birds, particularly those of the threatened species, were used in the Phase II wind turbine project.
- The block count data will be useful as baseline information for future monitoring. As for the vantage points, the number of vantage points and the required hour for surveying meets with the standards required. This was ensured by Dr. Persival who conducted the risk assessment models.

16. Collision risk assessment must be described mentioning the factors and parameters that were used, because the Thambapavani records higher actual collision rates than what was estimated.

- The avifaunal study was based primarily on three reports submitted to the Sustainable Energy Authority.

Weerakoon, D. (2023b). Consultancy Services for the Avifaunal Study of the Proposed Mannar Phase II Wind Power Project: Report on the study of Birds. Unpublished report submitted to SLSEA. 78pp.

Weerakoon, D. (2023c). Consultancy Services for the Avifaunal Study of the Proposed Mannar Phase II Wind Power Project: Report on the study of Bats. Unpublished report submitted to SLSEA. 44pp.

Percival S. (2023) Mannar II wind Park, Northern Province, Sri Lanka: Pre-construction bird surveys 2021-22 and collision risk assessment. Report submitted to SLSEA (29 pp).

- Some of the parameters that were included in the analysis were:

No of turbines, turbine design including height density of birds and bats in the area, flight height of birds with respect to the collision zone, vision of birds, wind loading and aspect ratio of birds.

- The survey and models have been done by two experts Prof. Devaka Weerakoon and Dr. Percival and have used standard parameters to estimate risks of wind turbines. It should be noted that a large proportion of the collisions in Thambapawani (Phase I) was due to collision with the overhead transmission / cables, and not due to the collision with wind turbines. We have in fact mentioned the deaths of flamingos because of the overhead transmission lines in the Phase II wind farm EIA report (section 4.3.1). Although the original design for the Phase II wind farm project included overhead cable and transmission lines, the EIA report for Phase II has strongly recommended underground transmission lines and cables, which would considerably reduce the number of collisions. (see sections 4.3.1, 5.4.1.5) and it is up to the implementing agencies to take up this recommendation.
- Critical habitat assessments have been also conducted. Annex 9.
- It should be noted that any model prediction must be assessed during the operational phase of a project and the mitigation measures should be adapted according to findings of the post construction monitoring to minimize the impacts.

17. The Thambapawani lines were nearer the coast and smaller in comparison to the present project which would impose a greater risk.

This is a mis-concept. Being located near the coastline in fact would impose a greater risk on the birds as the migrants move along the coast more frequently than using the areas of the Mannar Island which is where the Phase II turbines are intended to be installed. See response no.3.

The collision risks from Mannar Phase II is expected to be lesser than those in Mannar Phase I for the following reasons.

- Many of the collisions resulted from overhead power lines in Phase I – We strongly propose underground powerlines / cables for Phase II which would eliminate this risk altogether.
- The Mannar Phase I is located closer to the coast which would mean that it will be in the route of more migrants than in Phase II turbines located within the Mannar island.
- A safe aerial passage connecting the PA on either side of the Mannar Island has been left unobstructed.
- The radar detection system proposed for Phase II is much more advanced and more sensitive than that used in Phase I.
- Location specific features of the landscape was considered when abolishing and shifting through micro-siting exercise to minimize impacts on critical habitats. E.g. large sand dunes were avoided.
- The residential bird collisions (e.g. Brahminy kite) was more because some turbine locations / power lines were near the boat landing site (seine nets), where these birds are attracted by the fish caught. No such places are present in the Phase II Mannar site.
- Special evidence-based monitoring and reporting system will be in place to take any action of non-compliance and if bird mortalities are high.

18. The international conventions to which Sri Lanka is a signatory have been overlooked

Convention of Biological Diversity

- Regarding the relevance of the Convention on Biological Diversity to Sri Lanka, the fact that Sri Lanka together with the Western Ghats of India, is among the 34 biodiversity hotspots in the world is particularly significant.
- In this context the wet zone which supports many native flora and fauna, large numbers of endemics, and threatened species, would be deemed to be more important.
- The Mannar region, although supports fewer natives and endemics, and threatened species, in comparison to the rest of the country, is important for birds, and more so for migratory species. Therefore, special emphasis has been made to safeguard the birds.
- It should be noted that the CBD applies for whole of Sri Lanka and therefore a special mention of the CBD was not deemed necessary in the EIA report. Further, the proposed project will not significantly influence Sri Lankas obligations towards CBD.

Convention on Migratory species

The Convention states that ‘Where appropriate and feasible, each AGREEMENT should provide for the following that are relevant to the present project’.

- **The exchange of information on the migratory species concerned, special regard being paid to the exchange of the results of research and of relevant statistics** – We have referred to information based on an extensive literature survey conducted by the experts, including findings of his own technical studies in relation to Mannar and other wind farm projects. At the public review, there was repeated reference to a specific report supposed to have been conducted by the UOC (Water bird tracking project). As stated under Item 11, credible details of this project have not been provided to the EIA team.
- **Conservation and, where required and feasible, restoration of the habitats of importance in maintaining a favourable conservation status, and protection of such habitats from disturbances.**

This has been addressed through the provision of an ecological corridor of 1kmx11.2km, which has been delineated for protection. This was done with a genuine intention of having a marked area which would deter any development activities. It should be noted; however, all these lands are private lands where there is a risk of clearance for agriculture or human settlements.

The EIA team strongly believes that marking this area was more beneficial than leaving no areas marked at all, so that this would serve as a bird migratory route and for other ecological services. It should also be pointed out that sites that were identified as being important for birds, and owing to this several exclusion criteria were formulated initially prior to the selection of the turbine locations. Under these protected areas, active and large sand dunes (importance as bird soaring sites), thick scrub patches, mudflats, coastal set back of 50 m, water bodies, were avoided.

- **Elimination of, to the maximum extent possible of activities and obstacles which hinder or impede migration.**

Avifauna detecting mechanisms / System and control mechanisms - In addition to the above the project design has an inbuilt advanced radar based automated early warning system for mitigation

of bird collisions, which covers the entire wind farm area. It uses a multi sensor bird detecting system followed by curtailment actions at plant and turbine level. See section 2.1.1.1 page 39)

Section 7.1.3 operational phase bird and bat collision monitoring – The EIA has recommended a comprehensive monitoring-based actions to identify bird collisions that will help adapt and fine tune the proposed mitigation measures to minimize the collisions that is practically achievable.

- **Prevention, reduction, or control of the release into the habitat of the migratory species of substances harmful to that migratory species**
- The EIA report has recognized the importance of water bodies and low-lying areas for biodiversity, for migratory birds. The EIA has developed a comprehensive environmental management / monitoring plan as depicted in Annex 6.1 and 6.2, which addressed in detail the pollution sources, impacts and mitigation measures, parameters, frequency, and locations for monitoring. It should also be noted that wind power farms do not emit or release any harmful substances during the operational phase.

Chapter 1 should have included all relevant conventions under section 1.5. Due to an unintentional omission this section had not been included in the final report. This will be included as an Addendum to the report. However, it should be noted that all measures have been taken to safeguard overall biodiversity, birds (including the migrants) and the sensitive wetlands.

19. Clearance and loss of best forest patches and sensitive terrestrial and aquatic (freshwater) habitats with adverse consequences on biodiversity

Note the following with respect to the above comment.

- Large intact forest patches were avoided during the micro-siting – Section 5.1.1.1 (Table 5.1) – excluded at all possible locations. Recognizing the importance of scrub patches for biodiversity, although located within private land, the four original turbine locations (T14, T15, T16, T17) were shifted out of the relatively thick scrub patch that was observed during the site visits. We have in fact used this as a criterion for excluding. Some scrub patches will be lost due to access road which is unavoidable.
- It is seen that even with a no project alternative, these areas will be under pressure for clearance and degradation due to expansion for agriculture. An ownership assessment has been done through the relevant govt. agencies. The project notes that almost all the lands in the project area are privately owned. Hence considering the extensive areas falling within the project area undergoing conversion from scrubs into several other activities such as coconut plantations at present, there is not guarantee that the natural vegetation here will remain intact. Under this project about 200 ha of land will acquire and the acquired land will become a state property and it will be leased to the project proponent.
- The acquisition of private land, only 1/4th being used for the project and the other 3/4th released as state land to the community (around 98 ha) can be seen as an opportunity for safeguarding scrub patches and palmyra trees which would otherwise have been cleared if they remained as private land. Once the land become a state property, current haphazard habitat degradation and fragmentation of natural vegetation by private landowners will be controlled as only permitted activities will be allowed in the state land. As the project will be implemented with strict control of unnecessary clearing of vegetation specially the scrub forest patches and palmyra trees the uncleared scrub forest patches and palmyra tree will remain protected without being cleared. This positive aspect has been overlooked by all commenters.

- Only around 52 ha will be used for the project, and all of the other areas will be released to the community. Hence the protection of the patches that were excluded would be under threat from development. Hence it is recommended that these are reserved as conservation areas with the intervention of either the Forest Department or the Department of Wildlife Conservation. Further, it is recommended that selected areas may be set aside for natural regeneration to occur. This will be included as Addendum to the EIA report. A plan for **proposed replantation** has been included in the report (Annex 5 -3).
- All turbines initially proposed near freshwater retention areas / tanks / thonas were shifted during the micro siting exercise (see Table 5.1 which details out exclusion criteria)
- Through the above the impacts on all terrestrial fauna can be considerably reduced.

20. Disregarding negative impacts on bats, with reference to the Indian Pipistrelle / Pouch bearing sheath tailed bat

This claim is not valid due to the following reasons:

- The two species have been identified during the bat survey.
- The flight height of these two bats species is low, hence this would reduce the risks of collision with wind turbines.
- As stated in the letter, the Indian Pipistrelle is one of the abundant species in the Thambapawani area, but only three individuals were reported to be killed, and this too over a survey period of 1 year. This confirms that the collision risks to the two species is low.
- The species considered here generally feed on insects associated with waterbodies. Hence the present project which has avoided placement of turbines in proximity of waterbodies, will considerably reduce the impact.
- All other mitigatory measures that have been set out in the project report for reducing collisions in birds will also apply to the bats. This applies to all bat species including the threatened and data deficient species.
- The Sections 4 of Annex 9 specially focuses on the bats.

21. Disregarding impact on Protected Areas and using buffer zone

- The project has considered the importance of protected areas and totally avoided the PA such as Erukkalampiddi lagoon, Mannar Saltern, Vankalai sanctuary, Vedithalathiu Nature Reserve including Korakulum, Urumalai (in Adams Bridge Marine National Park). Accordingly, We have excluded all protected areas and their buffer zones. This measure would also lead to the exclusion of the lagoons and extensive mangrove habitats.
- Nevertheless, only two turbines (T 22 and T23) are also located at the exterior border of the buffer of the Vedithalathiu buffer zone. The EIA has been transparent in this stating in detail the proximity of the turbines to the protected areas (PAs).
- It should be noted that the CEA has the power to impose a condition that these turbines are shifted away from the buffer zone and if that is not possible to remove them altogether. Such a process has been followed during the environmental clearance process of Thambapavani Wind farm, where 12 turbines have been removed based on these turbines being in the buffer zone of Adams Bridge National Park.

22. Plans to remove the status of Adams bridge / and Vedithalathiu from its protected status and requests to DWC to comply.

This statement has no logical basis as none of proposed development activities are located within proximity for either of these protected areas and therefore there is no necessity in the first place for such an action. The EIA report when considering the environmental impacts has given due consideration to the Protected Areas – Adams Bridge and Vedithalathivu, Vankalai etc. Owing to the significance of these areas for migratory birds and general ecology, the EIA team has taken steps to exclude these and other similar sensitive areas (see figure 3.27 on protected areas and their buffer zone).

Therefore, it must be reiterated that no turbines are near these areas. In addition, the EIA team has recommended that an 11.2 km² aerial corridor be left untouched to maintain the continuity between protected areas on either side of the Mannar island. Hence, the EIA team has recognized the importance of leaving these areas untouched. Therefore, this seems to be a total misconception and a mal prognostication.

23. Impacts on marine life not adequately addressed

The project activities covered by this EIA report are limited to areas inside the Mannar island. Nonetheless, if sea route transportation is chosen, transportation of equipment in the shallow sea, construction of a temporary jetty and its impact on sensitive coastal habitats, disturbance to fishing in the sea / lagoons etc. would require to be considered as a separate project intervention which would then require a separate EIA to be done. The latter would require detailed surveys in marine ecosystems and assessment of impacts. Refer section 2.6.5 Transportation option of wind turbines.

- This report has fulfilled the requirement under the TOR where the report has to address impacts on coastal and marine ecosystems including sea grasses, mangroves and marine ecosystems as a result on the turbines. The turbine closest to the coast was also 110 m from the coastline.
- In lieu of this requirement, rapid underwater visual surveys were conducted using snorkelling which is an acceptable scientific and systematic method of describing underwater habitats, and for identifying sensitive habitats and noteworthy marine fauna and flora in shallow waters. This data was supplemented with data collected previously at this location by the same marine ecologist. In addition, discussions were held with fishermen in the same area during the survey to confirm the presence of any sensitive marine habitats in and around the proposed project location. These are deemed to be appropriate to envisage any indirect impacts due to the construction of turbines. The overall marine and coastal habitats have been described under section 3.4.7 while the impacts are described under 4.4.16.
- However, as a precautionary measure the report has made several recommendations in terms of mitigation to avoid any indirect impacts on marine or coastal habitats which might arise because of turbine construction on land. The mitigation measures in terms of reducing impacts on sea water quality (section 5.3.6.8), and for reducing pollution surface (See subsections under 5.3.6). The report has clearly stated the potential indirect impacts of the construction of basements on the marine environment due to sediment dispersal during the construction phase which may elevate suspended particles. However, the report has clearly stated such impacts can be minimized by sound best practices during excavation, disposal as well as any dewatering to be managed on land.
- Further, the report highlights the growing concern of some fishermen that noise generated from wind turbines would scare the nearshore fish away and that the fish catch of the artisanal fishers will be hampered. However, there is no scientific evidence for such a claim that noise generated

in the air would have impacts on fish. In any case, the wind turbine will be distant from the coast and sound pressure from the turbine will be negligible.

- Any impact of wind turbine noise has not been proven, however, since the fishers' have a growing concern, it is suggested in the report to monitor catch by species in nearshore fisheries and CPUE to be measured against a reference point away from wind turbines. (see section 8.2.3)
- All mudflats, salt marshes and mangroves have been avoided (see Table 5.1) and coastal setback (see Table 5.1)

Therefore, marine ecology is adequately addressed in the EIA report considering the wind turbines which has no direct impact on the marine environment. Refer response 28a as well.

24. Social Impacts and Benefits not adequately addressed

This accusation is baseless due to the following reasons.

- Section 3.6 of the TOR relates to the socio-economic environment, and this is covered extensively under 12 separate sections, namely, land use, demographic features, livelihood activities, development projects, fishery, fish farms and beach seine, cultural and historical aspects, socio-economic status, aquaculture, physical infrastructure, security, and proximity to sensitive receptors. The existing socio-economic status has addressed all these aspects in detail.
- The associated socio-economic impacts have been set out under 18 subject areas (Section 4.4) and related mitigatory measures have been set out in Section 4.5.
- Additions, where relevant (e.g. flood risk, changes in water quality) have also been addressed the possible impacts and relevant mitigatory measures recommended.
- We have used impacts on people and the society at large as criteria for exclusion or shifting of towers (see the 19 criteria given in Table 5.1) for avoiding or considerably reducing, the proposed impacts. For example, the original locations of the five turbines T24, T25, T26, T27 and T28, were abolished due to this reason (see Table F in executive summary).
- All unavoidable socio-economic impacts will be addressed through a comprehensive Resettlement Action Plan (mentioned in EMP 6.1) which is currently in progress. This also covers compensatory packages for loss of Palmyra trees etc.
- In addition to this several Corporate Social Responsibility (CSR) activities which would benefit the society has been recommended in the report under EMP 6.1 (Pre-con 3).
- The formation of a Grievance Redress Mechanism (GRM) has been recommended to address all grievances with respect to the project or its impacts. (Section 5.4)
- It should be noted that physical relocation has been brought to zero through the micro-siting exercise. (section 4.5.9)
- **Impact of livelihood due to loss of cattle/goat grazing lands**

The EIA identified no formal or designated grazing lands for livestock, Community consultations revealed that farmers currently use nearby lands, which are privately owned, for livestock grazing. Recognizing this informal arrangement, the EIA recommends that project lands should not be fenced, allowing continued access for livestock grazing. Although the lands are acquired for the project, they will remain accessible to livestock.

It is also worth noting that the project lands are scattered over a large geographic area, thereby minimizing the impact on a particular village or settlement. The project's permanent land use is

limited to the wind turbine foundations, which occupy a relatively small area. Consequently, most of the acquired lands will be available for natural vegetation, ensuring that livestock will continue to have access to natural grasses.

Accordingly, the project has been designed to minimize its impact on livestock rearing by maintaining access to grazing areas and ensuring the preservation of natural vegetation. This approach aims to balance the development of the wind power project with the needs of local farmers and their livestock.

- **Other co-benefits the project would deliver to the Mannar island if the land around the turbine area is left undeveloped.** Currently increased developmental activities and expansion of settlements have led to environmental degradation in the Mannar island. Such developmental activities will continue at the same pace or greater pace as much of the area is under private ownership. Setting aside areas for the project and land acquisition will mean that some lands could be protected, and natural regeneration allowed to occur. Therefore, the overall impact of the wind project will be much lower than if the lands are released for human settlements and for infrastructure.

25. Noise pollution not properly addressed

- In the present EIA the noise analysis (Conducted by ITI which is an accredited government institute) shows that (Refer Table 4-5) only in 8 turbines there is a marginal noise exceedance (equal and above reference level 45 DB for nighttime, the noise levels at the 8 turbine locations are between 45 – 47 dB) and the exceedance is for nighttime noise only. Even this result has been obtained, without considering background noise and barrier effects induced by terrain characters such as the presence of trees and buildings (partial barrier effects).
- Further the ambient noise level monitoring has found that the background noise levels in the project area already exceeds the prescribed nighttime noise level of 45 due to noises of breaking waves in the sea and wind blowing action on different surfaces (dune, sea, surface waters and trees). This phenomenon is known as Auditory masking.
- With these additional barrier effects, the net noise impact from the project on sensitive receptors will be further reduced and masked. Please refer sections 5.4.4.4 and 5.4.4.5 of the EIA report).
- As mentioned in the EIA report any complaints due to noise arising after project commencement will be addressed on a case-by-case basis through noise measurements and adoption of further mitigation measures as required.

26. Not avoiding impacts on sensitive receptors

- There are no recommended safe distances between turbine receptors (e.g. human receptors) for wind power projects. Thus, the expert team had to determine this on a case- by-case basis depending on the receptor. One of the main criteria that were used for determining safe distances was noise. Based on this, typically a 200 m distance was kept from an identified receptor to a turbine tower. However, this has been not possible for one turbine location (T4) where the nearest settlement / public facility was located at 115 m, as this was unavoidable. This has been clearly stated in Table 3-20 under Section 3.6.5.
- See response 25 for mitigation measures.

27. Impacts on drinking water sources / Concern about water pollution

This comment is not valid due to the following reasons.

- There will be no turbines in the areas of human settlements and well water sources hence contamination of existing well water is highly unlikely.
- The impact on ground water resource could be significant without mitigation measures, although the impacts are localized and site specific. Hence, various detailed mitigation measures have been proposed to reduce the impacts such as salt-water intrusion, increased salinity in ground water, etc. (See section 5.3.6. 3 to 5.3.6.6., EMP point no 7 in the construction phase). Adhering to these measures would substantially reduce any potential impact.
- Only further site investigation could throw more light to this issue and thereafter specific mitigation action could be taken. If the complainants could point out to any specific location, it could be further considered. Most of the turbines (except three out of 52) are away from the settlements and dug wells so that the risk of pollution of well water is low.
- The issue of water pollution has been also addressed in extensive detail in the EMP Annex 6.1 (items under Con-8, Con-9) – Giving the mitigation measures in the EMP would make it a contractual agreement through which the PP is obliged to comply. (in this case carry out piling works without affecting the freshwater lens). Based on the EMP the contractor should prepare an Environmental Management Action Plan (EMAP). The EMAP is the one that gives details how EMP is implemented at site. refer to Section 7.2 -Implementation Arrangement, and 7.2.2 Work Implementation Arrangement for details. Annex 6.1 and 6.2, which addressed in detail the pollution sources, impacts and mitigation measures, parameters, frequency, and locations for monitoring. It should also be noted that wind power farms do not emit or release any harmful substances during the operational phase.

28. Reduction in fish catches due to turbine noise and impact on fisher community due to the project

A. Reduction in fish catch

- The EIA reported fishers' opinions that "fish catch has been reduced in the Mannar Island area recently, and the noise, vibration, and/or reproduction habitat destruction from/for Phase 01 of the wind power project is the reason behind this phenomenon."
- The EIA team is quite aware of public perception that the wind projects could impact on the fish harvest. Owing to this reason the team of experts, as part of the EIA, has done a comprehensive literature review and found very limited information relating to onshore wind turbines on fish harvest.
- It should be noted that a reduction in **fish harvest can result due to number of factors such as overfishing, increase number of fishers that would result in a reduction of catch per unit effort, large scale illegal fishing activities carried out by Indian fisherman that would deplete the harvest, Bottom trawling method used by Illegal Indian Fisherman also cause significant damage to sea grass beds in the area that may reduction in fish recruitment etc.** Thus, the perception of the fishermen that their fish catches are going down could be influenced by any of these factors, which are much more likely to be the cause if such a reduction exists, rather than the unlikely hypothesis that the noise/ vibrations from wind turbines results in fish being driven away from the fishing grounds resulting in a reduction of fish catch.
- Credible scientific studies to prove or disprove the link between fish catches and onshore wind turbines were not found during the comprehensive literature survey. This has been mentioned in the report, and further the EIA emphasized that further studies on this aspect is needed (Section 4.2.1.3).

- Technically the turbine noise is completely dissipated, and it comes to the allowable noise levels, within a short distance from its centre according to the model studies.
- Further, an analysis of fish catches and catch per unit effort can easily be carried out based on a data reported from landing site if such credible data sources are available to first of scientifically establish that there is a problem by the fisheries department who have access to such data. To this date such an analysis has not been carried out to our knowledge by the Department of Fisheries who should take the lead in such an assessment as they are the mandated agency and if such a concern exists among fisherman, they should be aware of that concern.
- A site-specific assessment is important because changes in fish harvest can be induced by multiple factors and cannot be solely attributed to the wind turbines.
- It has been brought to our notice that a specific study is intended to examine potential impacts of Thambapavani (Phase I). We have requested for any possible information on this study, but it has not been made available up to now. Please see Attachment 2 for such official requests.
- The influence of the present turbines on fish catch would be expected to be very low because the present turbines are located more than 1.5 km away from the nearest fishing location and since, all waterbodies within protected areas, lagoon and even small waterbodies were left untouched.
- Although it has not been established that wind turbine operations adversely affect fish stocks in the vicinity, the EIA has recommended conducting an independent study on this matter. It has also proposed continuous monitoring of fish catch throughout the project period to ensure the fishery sector is not impacted by the project in the future.

B. Impacts on fisher community

- Concerns of the fishing community have been considered in the EIA in many ways.
- An in-depth public consultation survey was conducted which included the fisher community. Annexure 3.4.
- The socioeconomic background of the fisher community has been documented in section 3.6.5 and impacts addressed in 4.5.3.
- Details of the fishing activities along the coastal line is detailed out in Section 3.6.5. Distance of each wind turbine to the closest beach is given in Table 3.20.
- Impacts on the fishery community has been minimized at the planning stage (Section 5.11 – table 5.1) where a coastal set back of 50 m and a further 60 m has been excluded with no wind turbines, lagoons have been avoided. Areas of anchorages, dry fish stations, fishing huts have avoided. Access paths to all anchorages have been avoided. A minimum of a 200 m buffer has been left from all the locations important for fishery activities.
- The EIA has ensured that the project components are located away from fishing grounds, beach seine “*Madel Paadu*”, landing sites, access roads to fishing grounds and landing sites, and any other infrastructures related to the fishery sector. Because of this, no physical obstacles are expected to be caused to fishing activities by the proposed project. None of the lands earmarked for the project components are identified with fishing or fishery-related activities, directly or indirectly. Consequently, the project’s land use has no permanent or temporary impact on the fishery sector. However, the Entitlement Matrix in the EIA stipulates compensation if any unforeseen impacts temporarily arise during the construction stage.
- Access roads that will be constructed because of the project would facilitate mobility and transport facilities for the fishery community.

- Multiple CSR activities for community empowerment under education, community health, community infrastructure and livelihood which includes the fishery community have been proposed under the project. See Annexure 5-4.
- Specifically, for the fishing community training has been recommended for fish yields and productivity improvement, for promoting mangrove conservation, and for providing basic infrastructure for economically weaker fisher community. Additionally, training and awareness for fish product preservation, marketing, packaging, and forwarding has been proposed.
- The Grievance Redress Mechanisms which will be established under this project (PMU) will also be available for the fisher community.
- Any concerns regarding losses that would require compensation will be addressed by the Resettlement Action Plan (RAP) currently under preparation.

All the above have been discussed in the EIA report.

29. Disregarding the potential for flood aggravation due to turbine access

Flood risk assessment:

- Many turbines are to be in areas which are already flooded, with no human settlements, and are away from the existing human settlements.
- A flood risk assessment has been conducted by an expert hydrologist, and flood dynamics were modelled to predict the risks with and without the project scenarios, followed by the identification of appropriate mitigation measures to reduce any potential flood aggravation by the project. (see sections 3.1.4, 5.3.6.2). The latest technology, i.e. 2D modelling has been used for this.
- Backwater due to flooding arising from access roads and turbine construction has been minimized through the inclusion of culverts and other measures (Section 5.3.6.2). Many culverts have been provided with the access roads and the number of culverts in the access roads far exceeds the culvert density of the railroad, and A and B class roads in Mannar.
- Hence there will be no aggravation of floods due to the project. Refer Annex 5-2 hydrology report for the flood risk assessment.
- We emphasize that the significant positive impact of the access roads, facilitated by the project, is a point overlooked by all commenters. The provision of motorable access roads, equipped with a good number of culverts, will transform the transportation infrastructure for residents in the Mannar region, enhancing mobility within turbine areas for various activities. Many areas are currently inaccessible due to the lack of proper roads. The provision of access roads will greatly improve local flood resilience.
- **SLSEA in collaboration with Sri Lanka Land Development Corporation (SLLDC) has started a flood risk minimization project to address the current flood issue of the Mannar Island, as a CSR activity and SLLDC will provide suitable solutions.**

30. Projects overall impact on the ecotourism-based economy of the entire country, if the Mannar region is affected. This fact has not been given due consideration.

Note the following with respect to the comment.

- It is strongly felt that this issue should have been raised when the Mannar region was first identified and gazetted as a region for development of wind power, rather than at this late stage when several projects are ongoing or are being planned.
- The comment that Mannar serves as the backbone of the ecotourism industry in Sri Lanka is not supported by available statistics. As per the Mannar development plan for 2019-2030 prepared by UDA the number of tourists arriving at Mannar was only 800 (Page 72) in 2016 and in that very same year more than 2 million tourists arrived in Sri Lanka according to the Annual Report of the Sri Lanka Tourism Development Authority. This indicates that Mannar attracts less than 0.04 tourists arriving in Sri Lanka. Further the development plan indicates that only 3000 tourists are expected by 2030. Therefore, this comment reflects a lack of understanding in the part of those who raise such a comment about the ground realities that exist in the Mannar region.
- Further, the core island areas where the turbines are sited are not used as tourist areas as most of them are private lands. The Sri Lanka Tourism Development Authority has granted the clearance to the project.
- The decision as to whether the Mannar region should be conserved due to its importance for migratory birds or should be utilized for the generation of wind power is a decision to be made by the government taking into consideration economic, social, and environmental factors. The EIA report merely provides a scientific evaluation regarding the potential environmental and social impacts of the proposed phase 11 wind power project for the decision makers to arrive at an informed decision.
- The importance of Mannar has been recognized during the Phase 11 wind farm EIA report preparation, and all bird congregatory locations in Urumalai (Adams bridge) and Erukkalapididi (Vankalai / Vedithalathiu) have been totally avoided.
- Also, other locations such as the large and active dunes, relatively large patches of scrub which are intact at present, water holes, mudflats etc. have been avoided.
- Micro siting of turbine locations been done to reduce the impact.
- Bird movement is particularly high along the coast for which we have left a setback (50 m) and an additional reservation of 60 m.
- Thus, with these and the other recommended detailed mitigatory measures, it is expected that the bird collision risks are minimized.
- Further, it must be noted that bird watchers visiting Sinharaja and upcountry areas do not visit these locations with a specific intention of seeing migratory birds. On the other hand, they do visit these sites to observe terrestrial resident and endemic birds.

31. Not giving due consideration for Mannar being a tourism hub

- We are fully aware of the ecotourism potential of the Mannar region, with the main ecotourism activities / potential of being in and around the Koraulum, Vedithalathiu and Valkalai areas. Thus, we have taken an initiative, by design, to completely avoid these areas.
- Further potential collisions risk to birds during flight has been reduced to a practical minimum through various in-built project design-based mitigation measures and actions-based on comprehensive mentoring and reporting.

- The micro-siting exercise has taken the importance of the region for birds (migratory birds in particular) seriously and towers were removed or shifted to avoid areas which were already established as important for birds e.g. mudflats, active sand dunes with potentially high risks for soaring birds, birds / bat roosting sites, waterbodies (see Table 5-1 section 5.1.1)
- The demarcation of the arial corridor was to maintains continuity between Urumalai (in Adams bridge) with Erukkalapiddi (Vankalai / Vedithalatiu) and was intended to serve as a flight path for birds between the two areas.
- Further, please refer the comment 30 which provides statistics regarding present and expected tourists to Mannar presented by the UDA that clearly indicates that Mannar is not a tourism hub at present and is not expected to be one soon.

32. No consideration for culturally important sites such as the Silk Route/ Historical/ Archaeological sites in the Mannar area

- We have not impinged upon the silk route, nor any other culturally important sites. Taking this aspect strongly into consideration we have avoided all historically and culturally important locations, and in fact all human settlement areas as well, when selecting the turbine locations.
- A section has been dedicated to address sites of archaeological importance in the Mannar region. Section 3.5, Table 3.16, Figures 3.30 and 3.31.
- All these areas have been completely avoided from project activities.
- Any unforeseeable impacts have been addressed in Annexure 6.1 (CON – 25)

33. Incomplete ToR

The EIA has been conducted based on the final ToR issued by the CEA. However, owing to an oversight the draft ToR has been included in the annexes. The DWLC was consulted as specified in the final TOR. Although the GSMB was not specified in the ToR, this agency was also consulted during the EIA process. Hence, the EIA report based on the final ToR cannot be considered as incomplete.

34. Inadequate Line Agency Consultation

- Consultation of DWLC- It must be highlighted here that the DWLC which was considered as an important stakeholder by the EIA team, was consulted. The entire report was scrutinized by the DWLC prior to the first Technical Evaluation Meeting that was held before finalizing the EIA for the public review. Certain clarifications were made by the DWLC at this meeting with respect to ecological concerns. The minutes of the first TEC meeting is available with CEA.
- Consultation with the GSMB – Owing to the overlap of certain turbine locations with the proposed Mineral Sand Extraction Project, the SLSEA had consulted the GSMB to ensure that both projects could co-exist. For the turbine construction the GSMB intervention is needed only if mineral resources were found under turbine foundations. Such consultations will be carried out during the construction stage based on the results of the geotechnical reports.

35. Not incorporating environmental costs / inadequate cost-benefit analysis

- The extended cost-benefit analysis has taken into consideration 19 environmental service areas under the four broad categories of ecosystem services. This study primarily focused on the project area's air quality, biocontrol, climate, energy, soil erosion, extreme events, food, gene pool, genetics, medicine, nursery, pollination, raw materials, recreation, soil fertility, water flow, and related aspects. Each service area has been valued using the 2023-unit price and computed for the entire project land extent. The total allocated value is USD 127.79 million in financial terms and USD 121.41 million in economic terms.

- Additionally, a separate allocation of USD 253,968 (Rs. 80 million) has been made for a radar system and other complementary measures to minimize the possibility of bird strikes on wind turbines. All long-term impacts have been assessed, and consequently, an annual environmental damage cost for the construction and operational phases has been allocated and reflected in the cost-benefit model.
- Furthermore, to account for any uncovered or unforeseen impacts or environmental damages, this study has employed risk and sensitivity analyses, utilizing a 10% cost increase scenario. At the baseline case, the total capital expenditure is USD 383 million, and an additional USD 38 million has been allocated to the cost increase scenario. Therefore, the cost-benefit analysis has comprehensively covered and properly mitigated all long-term ecological impacts by allocating sufficient resources for their mitigation.
- Opportunity cost represents the value of the next-best alternative that is given up when a particular decision is made.
- When doing Environmental Impact Assessments (EIAs), a thorough opportunity cost analysis should look at the potential benefits or revenues that could be earned from other possible development options for that land. But only if those other options are better than the proposed project with higher return to the economy.

For example, if the project area could potentially be used for hotels and tourism, housing projects for residents, or commercial centres, the opportunity costs should include the economic benefits that could come from using the land for those alternative purposes.

- However, if such alternative land use scenarios may involve more intensive human activities with significant environmental damages relative to the proposed project, but the potential return to the national economy is not significant with comparison to the proposed project, then the revenues from such alternatives (second best option) were not evaluated.
- This is because the total projected incremental economic return from the proposed project is USD 1.339 billion. Since the potential economic gains from the alternative development scenarios are lower than what the proposed project would contribute, and therefore, their opportunity costs are not necessary to evaluate.

Note that Annexure 1 provides a detailed account on the cost-benefit analysis.

36. Not considering alternatives

It should be noted that Project alternatives in EIA does not consist of only site alternatives. Project alternatives include inter alia, site alternatives, process alternatives (other ways of generating the same quantity of energy using solar, coal, heavy furnace oil, LNG or combined), technological alternatives (different types of turbines that have low noise or ability to reduce the number of turbines needed for the estimated power generation), micro siting (for wind resource optimization) alternatives, transport alternatives, power evacuation alternatives etc.

It is also understood that the most environmentally benign option will not always be selected for implementation as there are many other factors other than environment which may be considered during project implementation. Economic and social factors in particular play a major role in this regard. It should also be noted that according to the National Environmental Act a project proponent is not required to select the most environmentally friendly option during project implementation. However, the EIA should provide reasons for adoption of a less environmentally friendly option in the EIA report. (please refer the amended section 33 of the National Environmental Act)

It is the general practice, that the Project Proponent proposes such alternatives to the EIA team based on the feasibility studies and other planned developments in the wind sector before the EIA. Based on such primary studies the EIA team will carry out a physical, ecological, social and Extended Cost Benefit Analysis (ECBA) and present it in the EIA report identifying the best alternative.

However, EIA team can carry out a no action alternative, micro siting alternatives on physical, ecological, and social considerations, power evacuation alternatives, transport alternatives etc., based on the initial findings of the Project Proponent. Usually, the initial studies evolve for some time based on government policies and other factors before coming to the EIA stage. This is a realistic situation.

Such an alternative analysis is presented in the report and the Public Comment to the effect that alternatives are not considered is an inaccurate statement. Having said that, we can further elaborate on the alternatives already presented, as responses to concerns raised through Public Comments.

A-General

The Mannar region has been declared as a suitable site for wind energy (based on its potential wind power) according to Gazette notification, No LDB/8/2007/(II) – The EIA report has provided a comparative analysis of different locations within the country (Table 2.9) based on the potential for generating wind power, proximity to transmission lines, upgrading requirements, terrain, accessibility, terrain orientation to prevailing wind, community concerns, land cost, vegetation over 10 m, soil condition, environmental issues hampering the wind project, aviation and communication pathways. All sites involve consideration of ecological, agricultural, sociological, manoeuvrability and economic considerations.

B-No Action Alternative

The best option for ensuring zero impacts would be the ‘no project alternative’. The Mannar region has been selected from among several sites (as shown in Table 2-9 in the EIA report as given below) considering all these combined factors. No Action Alternative is not a viable option as sites with good wind resources must be exploited in a sustainable manner as this would help Sri Lanka to reduce its carbon emissions and save foreign currency that it would have to pay if this amount of energy is to be generated using non renewables. Further, this would also reduce vulnerability of the sector as Sri Lanka is using a resource within the country rather than depending on a resource such as oil or petroleum from outside the country, the price of which could be influenced by several factors that are beyond our control such as international conflicts, economic downturns etc.,

C-No consideration of site alternatives

C1-Site Alternatives

According to Table 2-9 (Reproduced below) of the EIA Report only limited sites are available for site alternatives since a primary requirement will be the availability of sufficient wind in each location.

Table – Site Alternatives for Wind Turbines

Criteria	Southeast Coast	Kalpitiya Peninsula	Mannar Island	Jaffna	Ambewela Cattle Farm
Wind resource density based on NREL map	2	3	3	3	3
Weighted Score (multiplier = 5)	10	15	15	15	15
Proximity to transmission lines	4	4	1	1	4
Upgrades required to existing transmission lines or substations	3	1	1	1	5
Terrain	5	5	5	5	2
Accessibility	4	4	1	1	1
Terrain orientation to prevailing wind	3	4	5	5	3
Neighbor or community concerns	5	3	1	1	5
Land costs	5	5	5	5	5
Vegetation over 10 m	5	5	5	5	5
Soil conditions	5	5	5	5	4
Site environment issues (corrosion, humidity)	2	2	2	2	3
Cultural or environment concerns	3	5	5	5	5
Aviation and telecomm conflicts	5	5	5	5	5
Site Related Subtotal	49	48	41	41	47
TOTAL SCORE	59	63	56	56	62

Note: 1-5 scale indicates the relative ranking score

Source: *Sri Lanka Wind Farm Analysis and Site Selection Assistance Global Energy Concepts, LLC*Kirkland, Washington, *National Renewable Energy Laboratory, Colorado*

It is seen that the alternative sites that have already been identified have already been utilized or proposed to be utilized for wind energy development, except for the South-eastern coast. Therefore, no other sites are available for the construction of a wind farm of this magnitude (250 MW).

Jaffna has already been considered and several wind power projects are already operating or proposed. Pooneryn, Mullikulam and Veruwil has already been selected for the installation of wind farms. There are also several wind power projects operating in Kalpitiya/ Puttalam area.

The entire South-Eastern coast has similar issues as the entire coastal stretch from Hambanthota to Panama comprises of several protected areas¹ viz., Bundala NP, Nimalawa Sanctuary, Ruhuna NP Block 1 and 2, Yala East (Kumana) NP). Further, Hambantota according to the above report is less suitable for wind power generation (Pages 31/32). The Ambewela Region also pose serious ecological concerns due to its proximity to several PAs (Horton Plains NP, Hakgala SNR, Agra-Bopath Forest reserve, Kamdapola Sithaeliya FR, Pedro FR in addition to the logistical difficulties in transporting turbines). It is also said that the winds at Ambewela are gusty winds, that are not as suitable as the continual winds in other places for the harnessing of wind energy. Further transporting the large turbine parts,

¹ “Much of the coastal areas, where the wind resource is best in this region, are national park and reserve land, which are excluded from development. The remaining land may undergo more strenuous environmental review of development plans than in other parts of the country due to the proximity of national park and range land. Since the winds in this region are generally parallel to the coast, turbine rows would need to be installed perpendicular to the coast but less than one or two kilometers inland where the winds are attenuated considerably. This arrangement will require a larger amount of coastal land than if the wind direction were offshore. **For these reasons, it may be difficult to site wind power projects of 20 MW or larger capacity on the southeast coast.**”-Page32, *Sri Lanka Wind Farm Analysis and Site Selection Assistance Global Energy Concepts, LLC*Kirkland, Washington, *National Renewable Energy Laboratory, Colorado*.

equipment and installation of large turbine are seriously constrained by the difficult terrain conditions and require high level of efforts.

Therefore, Mannar island is one of the best sites to install a wind farm of the magnitude of the present project. Non utilization of this resource will be economically wasteful and such a consideration is beyond the scope of the EIA report and should be dealt at policy level. **However, if Mannar is to be excluded from wind development owing to the threat it poses for migratory birds then the entire North-Western coastal zone should be set aside since migratory birds use this entire area.** This would require cancellation of the proposed wind power projects in Mullikulam, Veruwil, Pooneryn and decommissioning of currently installed wind farms such as Thambapavani, Nannatan, Chalai and Elephant Pass.

C2- Micro-siting Alternatives

Within the project, alternative locations have been largely accommodated, during the micro-siting exercise where turbine locations have been abandoned altogether or shifted based on both the envisaged environmental and societal impacts.

D- Non-use of wind technologies which are bird collision risk free.

Using bladeless turbines have the following disadvantages even though they may prevent bird collisions.

- The technology is not fully developed for commercial adoption.
- Bladeless wind turbines are still in their infancy, they are less efficient in converting captured wind power into electrical energy, which limits their widespread adoption.
- The vane must wobble at a rather fast speed to generate a substantial quantity of power. However, the higher the oscillation speed, the greater the stress on the vane and the foundation that keeps it upright.
- Electricity generation is influenced by changes in the atmosphere. Oscillation control systems must follow the mast's usual frequency and vibration reliability.
- Depending on the desired outcomes, the mast height can be increased.
- The initial cost is higher than the operating cost of a bladeless wind turbine.

Source: [Bladeless Wind Turbines: Are They Worth The Hype? \(2024\) | Today's Homeowner \(todayshomeowner.com\)](#)

E- Legality of Alternatives

Section 12 of the National Environmental (Amendment) Act, No. 56 of 1988 [Certified on 12 December 1988]-AN ACT TO AMEND THE NATIONAL ENVIRONMENTAL ACT, NO. 47 OF 1980 reads as follows:

12. Section 33 of the principal enactment is hereby amended as follows:-

Amendment of
section 33 of the
principal
enactment

- (a) by the insertion, immediately before the definition of "beneficial use", of the following new definition :-

"air pollution" means an undesirable change in the physical, chemical and biological characteristics of air which will adversely affect plants, animals, human beings and inanimate objects;

- (b) by the insertion, immediately after the definition of "environment" of the following new definitions :-

"environmental impact assessment report" means a written analysis of the predicted environmental project and containing an environmental cost-benefit analysis, if such an analysis has been prepared, and including a description of the project, and includes a description of the avoidable and unavoidable adverse environmental effect of the proposed prescribed project ; a description of alternative to the activity which might be less harmful to the environment together with the reasons why such alternatives were rejected, and a description of any irreversible or irretrievable commitments of resources required by the proposed prescribed project ;

Adhering to the provisos in this section regarding alternatives, the Project Proponent initially and the EIA team subsequently has conducted alternative analysis. It should be noted that the contents of this answer supplements what has already been presented in the draft EIA report on Alternatives which will form the contents of the Final EIA Report.

37. Not locating the Phase II turbines in the southern coast where the turbines of Thambapawani are already installed.

The Thambapawani extension has already been planned for in this region. Therefore, additional turbines of Phase II cannot be accommodated.

38. Not considering the cumulative impacts of all developmental projects including the multiple wind power projects in the Mannar island.

The entire Mannar island has been earmarked for renewable energy projects by the SLSEA. Hence, we are of the understanding that several such projects will be implemented in the Mannar island to accomplish this demand, at least partly, and together they would lead to potential cumulative impacts.

- Cumulative impacts of multiple projects are usually predicted through a Strategic Environmental Assessment (SEA). In this case an SEA will be the best option considering the existing as well as planned wind power projects in Mannar that assess the cumulative impact of all the projects.
- The EIA team is also of the strong opinion that such an intervention should have been considered, and such a decision should have been made at the initial declaration of the Mannar island for wind power projects.
- The EIA of the proposed 250Mw wind power project is one of the projects among few others that will be implemented to achieve planned wind energy for the Mannar island. Accordingly,

the EIA report is expected to address the project specific impacts as outlined in the TOR issued by the CEA, which has been accomplished.

- Although the EIA could not address the cumulative impacts induced by other projects a maximum effort has been taken to prevent and minimize the project specific impacts while maximizing the project benefits to the environment and the community.
- Further as stated earlier, the concerns have been considered from the lessons learned from already operating Thambapavani project and steps have been taken to avoid similar impacts that have arisen from the past wind project to ensure these will not arise (prevention), minimize, compensate in the proposed 250MW project.

Some effects have been considered in the EIA

- Cumulative loss of land to occupy the wind turbines; The project has taken several measures to minimize the impacts on land acquisition.
- The present project does not utilize any land currently occupied by settlements.
- Towers are located sufficiently away (more than 200m) from the settlements. Only three or four turbines are closer to settlements. Other turbines are very much away.
- Many turbine locations have used the lands currently unsuitable for occupation due to the risk of flooding.
- The project has limited the permanent land acquisition only to tower footing and access roads and few permanent project facilities.
- The access roads will be allowed for public use.
- After the construction phase the lands in between (soft standing areas and temporary facilities) will be released for other uses such as cattle rearing. These areas, as will be left untouched, will regenerate rapidly allowing natural habitats to establish.
- However, the acquisition of land for turbine footing and the approach roads are unavoidable. The impact will be offset with compensation of the loss of land and its valuable uses according to the state approved compensation regulations. For this a separate entitlement matrix is being prepared.

39. Negative impacts of the proposed radar system on birds / bats

In the socio-economic assessment of the existing infrastructure facilities in the Mannar region, we have observed many already existing strong radar systems installed by the SL Navy / Air force for security purposes in the northern region. These have been installed many years ago probably during the civil war. Hence the avifauna/ bats in the area are already exposed to strong radar beams than that has been proposed through the present Phase II project. Most likely many of the species are therefore accustomed to this. See Figure 4.11.

It should also be noted that radar systems are widely used globally for reducing the impacts of wind turbines on birds and bat.

40. Land inconsistencies in the report

We accept this and this issue will be addressed through revisions and corrections to an Addendum to the report.

41. Vibration impacts not addressed

We have discussed the vibration impacts under section 4.2.2. Piling induced vibration has been recognised together with other high noise/vibration activities in the construction phase. However, it is noteworthy that direct exposure of human settlements to a vibration hazard is low as they are located away from the human settlements. Distance to the nearest human settlement is about 258 m and only about 8 turbines are located close to the human settlements. Mitigation measures for vibration impacts are given in section 5.2.3. The following two mitigation measures are specifically dedicated to vibration impact mitigation.

- “As much as practicable, construction methods that produce minimal vibration will be adopted, especially in sites adjacent to residential and institutional areas where possible damage to the structures due to vibration may occur”
- “Pre-crack surveys will be carried out in buildings and sites before construction work starts and after the work is complete. In case of building cracks due to project induced vibration, the affected party will be immediately informed, and once the damage is repaired by the affected party it will be reimbursed, or the damage will be compensated without delay.”
- Vibration impact management is specifically addressed in the EMP under Con -17
- Many of the mitigation measures proposed for noise is equally applicable mitigation of vibration impact.
- As there is no significant vibration generation in onshore wind farms which uses modern turbine technology and state-of-the-art operational mechanisms the EIA has not proposed mitigation measures. However, based on Mannar Phase I, vibration impacts during the operational stage have become a considerable concern, we will have recommended in Addendum the continuous crack surveys of the nearby sensitive buildings and vibration monitoring as appropriate to be implemented by PMU and to mitigate any observed impacts.

42. Final transport routes not discussed

We accept the fact that the final transportation route has not been decided as stated by comment. At the time of preparation of the EIA report detailed feasibility studies with ground information for transportation of turbine parts and equipment were not available to decide the final transportation route. In the EIA we have stated that the selection of transportation route and the mode will require

- A detailed logistic assessment of the chosen transportation route and approvals from relevant authorities (e.g., RDA, CC&CRMD, MEPA, Sri Lanka Navy, Sri Lanka Ports Authority).
- We have emphasised a marine ecological survey of the sea in the shallow sea areas.
- A technoeconomic evaluation and metrological / weather conditions in line with project timelines, to avoid traffic congestion.
- Requirement of obtaining respective permission / clearances according to the regulations of the country. In obtaining relevant approvals from the responsible authorities
- If sea route transportation is chosen, transportation of equipment in the shallow sea water, construction of a temporary jetty in the sensitive coastal habitats, disturbance fishing in the sea etc may require to be considered with a separate environmental clearance subjected to an IIE/EIA. This will be outside the scope of this EIA and may be dealt under a separated EIA

Refer section 2.6.5 Transportation option of wind turbines.

We emphasise that a separate environmental impact assessment study should be undertaken if the marine transportation route is chosen.

43. Inadequacy of the EIA process

- An EIA operates over a globally accepted specific time frame and this sets it apart from research studies which requires long term surveys. For this reason, EIAs are generally based rapid assessment surveys.
- As such rapid assessment surveys may fail to provide comprehensive lists miss out on important species. Therefore, consultants are expected use knowledge generated through long term experience in the area, and through literature reviews of studies conducted in the area which have been done during the process of this EIA.
- However, for key components such as birds and bats which are proposed to be directly affected by wind turbines, a long-term study has been done (Refer section 3.4, 4.3, 5.4.1, annex-9 avifauna study)
- The Central Environmental Authority has taken a holistic approach in preparing the TOR for the EIA covering environment, social and economic aspects. The EIA has accordingly addressed all the aspects according to the TOR provided. The EIA has been conducted by a multidisciplinary team of experts using expert opinion, field surveys, monitoring, model studies, referring published literature from recognized agencies such as ADB, WB, USEPA. The impact identification, analyses evaluations were supported by the above studies, as well as expert opinion to develop appropriate mitigation measures.
- As is the accepted procedure of the EIA process, the report was open to the public for 30 working days to facilitate public comments on the EIA report so that any omissions or further concerns could be addressed when finalizing the project.
- The EIA process in Sri Lanka comprises of many systematic steps that allows for fact-based identification and evaluation of the significance of impacts and to derive the most appropriate and cost-effective mitigation measures with participation of all parties including the public.
- The team is therefore confident that a holistic approach has been followed in preparing the EIA within the scope of the ToR.
- When reviewing the public comments, it was noted nearly all comments had already been addressed in the report with only a few minor additional details which would also be addressed through an addendum to the EIA report.

44. Loss of Palmyra trees

The EIA report has meticulously examined the impact of the project on Palmyra plants. The initial assessment has identified 13,371 Palmyra plants within the designated lands for wind turbine construction. It is worth noting that this preliminary count is a conservative estimate, encompassing (yet to yield fruits), mature plants (yielding at full capacity) and that are too old (yield less than the average), as well as both male and female specimens. Consequently, the actual impact of Palmyra removal will likely be less significant than anticipated, as outlined below:

- Loss of income from Palmyra is primarily substantial for mature and older trees. However, the estimation includes younger plants which are yet to contribute to the tree clusters significantly in future.

- While 13,371 plants are estimated to be within the total land area (160m*160m land pieces for each turbine), only 3,953 are located within the hard stand area (90*95m) of each plot earmarked for construction. Efforts will be made to minimize tree removal even within this area, with vegetation, including Palmyra, that will be preserved in the remaining land parcels.
- Since Palmyra's primary use is for producing tubers and fruit pulp, where female plants being crucial, the number of impactful tree removals is halved due to the typical 50% female distribution in naturally grown plantations.
- Wind turbine locations are dispersed across the island, preventing concentrated Palmyra removal from affecting specific households disproportionately.
- Additionally, a significant number of trees slated for removal are located more than 1km away from settlements, diminishing their direct impact on local livelihoods, particularly in terms of accessibility due to the distance from the plants.

Hence, the actual Palmyra impact is expected to be significantly less than has been estimated in the EIA report. The forecast was to find the worst-case scenario. Accordingly, the mitigation measures have been recommended in the report, although their necessity may be reduced given the low impact than what is anticipated.

- Chapter 5.3.1 outlines an entitlement matrix for Titleholders/non-titleholders affected by loss of trees due to the land acquisition, facilitating adequate compensation.
- Chapter 5.3.2 specifies mitigation measures to minimize Palmyra impact during project implementation through micro-adjustments in component placement.
- Additionally, the EIA mandates that the project developer preserve as many Palmyra trees and other vegetation as far as possible, within the hard/soft standing area through meticulous assessment during the construction period. There are no provisions suggesting that trees within the hard standing area should be completely removed. Only within the turbine foundation area there will be complete tree removal.
- Further the same chapter states that the project will maintain its collaboration with the Palmyra Development Board and the resource users in the project area to prepare a plan to enhance income generation of the persons affected by losing the Palmyra tree. This plan will consider capacity development for value addition of Palmyra resources, fostering diversification at the community level. By doing so, the project seeks to improve the economic prospects of Palmyra resource users and contribute to the sustainable development of the community.
- Additionally, the project will collaborate with the Palmyra Development Board on the replanting of Palmyra trees, exceeding the number removed. Despite observations indicating that landowners are removing Palmyra trees in the area, the project, in partnership with the Palmyra Development Board, will ensure the protection and preservation of these replanted Palmyra trees for future community use.
- The areas with temporary construction use will be released and allowed to naturally regenerate Palmyra trees and vegetation- post-construction.
- Replanting was considered and discussed extensively by the SLSEA, and relevant parties and it will be undertaken in concurrence with the PDB and necessary funds for replantation will be provided by the project.
- All short term and long-term Palmyra related economic impacts will be addressed through the RAP.

45. Impacts of transmission lines not addressed adequately

- We acknowledge the fact that the transmission line is a major risk hazard for birds, and this has been given as an item to be addressed in the TOR.
- However, we were notified that the assessment of the **impacts of the transmission line would be conducted under a separate EIA / IEE under the purview of the CEB** This would cover the feasibility, design of the transmission line and the EIA.
- SLSEA has been requested to provide the underground cable layout which will replace Figure 2-20 of the EIA report.
- Therefore, no detailed effort was put into ascertaining impacts owing to transmission lines.
- However, as a precautionary measure we have emphasized that, in lieu of the expected collision impacts on birds, transmissions lines are laid underground see comment under response 16.

Letter is attached (Attachment 3)

Note: All comments that are within the prescribed ToR and the scope of the EIA report were addressed. A few comments will be addressed by the CEA and SLSEA. We wish to note that nearly all the common concerns raised have been adequately addressed in this document. A few constructive comments were noted and the required revisions with respect to these will be addressed through addendum to the EIA report.

46. Expropriation of residential land:

- The EIA has confirmed that none of the project's lands include residential or commercial dwellings, ensuring that no residential lands are used for the project purposes. All identified lands are free of existing infrastructure, and it is ensured that residential areas have been excluded from the project scope.
- Additionally, any lands required for the project will be acquired according to the regulations stipulated in the Land Acquisition Act and its amendments. This legislation ensures that the impacts of land loss and the concerns of landowners and rightful users (those who depend on these lands and its resources for various livelihoods activities) are addressed and appropriately mitigated or compensated. The Land Acquisition Act provides ample opportunity for landowners to engage in discussions with the acquisition officer about the impacts and concerns related to the land acquisition process. Moreover, if a landowner becomes landless due to the land acquisition for the project, they will be prioritized to receive alternate land. This measure ensures that the landowners' livelihoods and living conditions are preserved, reflecting the project's commitment to minimizing adverse impacts on the affected communities. Consequently, no expropriation of residential land is anticipated for the projects.
- The acquisition of land for turbine footing and the approach roads are unavoidable. The impact will be offset with compensation of the loss of land and its valuable uses according to the state approved compensation regulations. For this a separate entitlement matrix is being prepared. Chapter 5.3.1 outlines an entitlement matrix for Titleholders/non-titleholders affected by loss of trees due to the land acquisition, facilitating adequate compensation.

47. The project has been planned against the UDA act (The project is against the life of the people).

The project is not against the well-being of the people. There are no impacts identified in the EIA that would endanger human life or be detrimental to the community. Although the EIA recognized a

conceptual conflict between the proposed project and the UDA's development plan, the EIA team also noted the following points:

Timing of Plans:

- The UDA's plan was prepared after 2017, while the SLSEA gazetted the renewable energy zones in 2024, which is earlier than the UDA's plan.

Recognition of Renewable Energy Potential:

- The UDA's plan identifies Mannar as an excellent location for renewable energy development. It states, "When considering Mannar Island as a place for renewable energy and the land availability, the untapped developable lands should be a great strength. There are 80% of the land on Mannar Island that is untapped and developable, including vast no-man areas. This is a great strength to develop Mannar Island as a perfect place for renewable energy." Hence, the project aligns with the evaluation of the UDA's plan.
- Development Goals: The same UDA plan recognizes "renewable energy development on Mannar Island" as its second development goal.

Compatibility with Other Developments:

Although the wind turbines are proposed to be located within the zone identified by the UDA as suitable for township and fisheries sector development, there are no project impacts that would prevent future development in these areas. Wind power generation can coexist with township and fisheries sector development.

Accordingly, while the EIA identified a zoning conflict, there are no barriers or interferences between the UDA's plan and the proposed project, or vice versa.

Attachment 1- Request letters from Colombo University for the CAF Waterbird Tracking Project and the reply letter received.

Attachment 1A the reply sent by Mannar Bird Club/Association for Women Empowerment.

Attachment 2-Request letter for NARA fish study

Attachment 3-SLSEA letter on the transmission line



2.RESPONSES TO INDIVIDUALS, GROUPS AND OTHERS



Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
1	B.Y.Hemantha Senaviratne	Disregarding of International Conventions signed by Sri Lanka	18
		A critical wintering site for migratory birds can be destroyed	1, 2, 3, 7
		Clearing vegetation	19
		Bird corridor not properly established	8, 9, 1, 7
		Restricted bird species will be affected.	2, 19
		Affecting diverse wildlife species in Mannar	19, 20, 21, 23
		Located close to sensitive areas	21,19
		Impact on wildlife tourism	30, 31
2	M.C.Senarathna	Concern (2a) - Mannar is amongst the four richest migratory birds' regions	2, 1, 3, 7
		1.5 million migratory birds will be affected	2, 1, 3, 7
		Wetlands and PAs, which are important for migratory birds, will be destroyed	21
		Bird corridor not properly established	8, 9, 1, 7
		It is important to establishing North South directed bird corridors	9
		It is important to strengthening the existing nature reserves	21
3	K.L. Senarathna	EIAs should be for the understanding impacts of project and not for justification	33
		Forest loss may impact tourism severely, and the EIA has been prepared in an inappropriate way	30, 31
		Obligations with signatory conventions	18
		Inappropriateness of proposed bird corridor/ lacking scientific data	8, 9, 1, 7
4	M.Thayananthan (Director; The Palmyra House (Pvt) Ltd)	Over 1 million migratory birds (of 150 species) will be affected	2, 1, 3, 7
		Mannar hosts rich migratory bird population including 20 globally threatened species and they can be affected	2, 1, 3, 7
		CAFSL Waterbird tracking project revealed that the bird's movement across the project area	12-B, 3, 7
		Project will compromise tourism potential of SL	30, 31
		Availability of alternative sites have not studied	36
		Weakly addressing the concerns of the Central Asian Flyway	1
		Letter 04 -Annex 1	

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
		Mannar plays a critical role in migratory connectivity according to Water bird tracking project and this can be affected	12-B
		Bird observations lacked proper timing, and technology	10, 11, 12 A & B
		Inadequate review of migratory/local birds	4, 13
		Towers threaten crucial Mannar forest areas	19
		Powerlines and turbine blades pose avian threats	14
5	Jaliya Gunasekera	Obstruction to vital migratory route	1,3, 9
		Inadequacies in bird observation data collection	10, 12-B, 11, 13, 4
		There is a lack of emphasis on the significant importance of the Central Asian Flyway in Sri Lanka (CAF-SL)	1
		Inappropriateness of proposed bird corridor/ lacking scientific data	8, 9
		Clearing of best forest patches and loss of habitat for birds	19
		Not considering low ecologically sensitive other sites with wind resource in Mannar as an alternative	36
6	Devika Rajasuriya	Clearing of best forest patches and loss of habitat for birds	19
		Central Asian Flyway not emphasized	1
		Mannar is amongst the four richest migratory birds' regions	2, 1, 3,7
		International Convention on Migratory Birds may violate	18
		Mannar wind plant threatens migratory birds	1,2,3,7
		Inadequacies in bird observation data/not using tracking data& technology	12
		Inappropriateness of proposed bird corridor/ lacking scientific data.	8
		Wrong timing	10, 11
		Of concern for alternative sites	36
		Turbines generating high-decibel noise could disrupt bird navigation and breeding habitats	5
		Turbines pose collision risk to birds	14
		CEA does not safeguard the environment	33

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
7	Asoka Yapa	Adani's wind project affects migratory bird path	1,2
		Indian paradise flycatchers which flying along the Palk straights will be affected.	Based on the global and national threatened status (LC) and the flight height, this species has not been identified as one of high importance in terms of specific conservation. All proposed migratory measures for avifauna will be applicable to this species as well. (19, 3)
		Thousands of birds will fly in and return back seasonally, some are critically endangered	2, 3, 7, 21
		Wind farm, power lines create bird deathtrap	14
		CEA do not safeguard the environment	33
		Inappropriateness of proposed bird corridor/ lacking scientific data	8
		Reliance of short-term data for bird studies	4
8	Farzana Khan	Same as Devika Rajasuriya letter (Letter 06)	Same response as for Commentor 6
9	Nithma Hewawellage	Project affects migratory birds, and it requires to consider alternatives	36
10	Chamindu Jayathilake	Globally important bird species will be affected	1
		Mannar is a critical breeding and feeding ground for migratory birds	2,3,7
		Wind farm will endanger millions of birds and may led to risk of extinction	2
		GPS tracking shows that the proposed bird corridor will not be effective	8, 3,7
		Turbine blades and powerlines can cause bird deaths	14
		The EIA has not prepared properly	33
		Responsible authorities are not taking action on the issues	CEA for reference
11	Gayathri Hanwella	Obligations with conventions.	18
		Obstruction to vital migratory route	1, 2,3, 7, 8
		Mannar is amongst the four richest migratory birds' regions	2
		8 species of critically endangered sea birds breeding habitats can be affected	3,7
		Nationally critically endangered crab plover and globally threatened bar-tailed godwit can be affected	3, 7
		Inadequacies in bird observation data collection.	12, 10, 11

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
		Not considering low ecologically sensitive other sites with wind resource in Mannar as an alternative	36
		Inappropriateness of proposed bird corridor/ lacking scientific data	8, 7
		Clearing of rich forest patches and loss of habitat for birds	19
12	Hasindu Chamodya (S)	The project may affect on the migratory birds and tourism industry	30,31
13	Chantal Cooke	Same as Devika Rajasuriya letter (Letter 06)	Same response as for Commentor 6
14	Nipuni Chandrasiri	The project will severely affect on migratory birds and surrounding ecosystems	1,2,3,7
		The EIA has not prepared properly	33
		The report overlooked critical migratory patterns, and bird movements	3, 2,1,7, 8
		The study has not suggested alternative sites	36
		Critical habitats of migratory birds, environmental sustainability and nation's biodiversity may affect	Too general – all responses on birds, ecology, biodiversity are relevant
15	Anne-Marie Fonseka	CAF may affect with proposed project	1
		Bird studies not properly conducted	4, 10, 11,12
		The study has not suggested alternative sites, there may be external pressure for the approval and disregarding the international conventions	36
		Since the EIA not prepared properly, it should be revised	Not Agreed. See response 33.
16	Asha Lokuwaduge	There will be adverse impacts on the eco system	Too general – all responses on birds, ecology, biodiversity are relevant
17	Wipula Gunawardana (S)	Lack of alignment between the proposed bird corridor and the actual movement patterns of 21 GPS-tagged birds	3, 7, 8
		Migratory birds are frequently moving in Mannar	1, 2, 3, 7
		Millions of migratory birds can be affected	2
		Natural heritage may destroy with the implementation of wind turbines	All responses on birds, ecology, biodiversity are relevant
		Development project has not prioritized environmental sustainability, and the potential impact	General comment – see response 33.

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
18	Shenon Leyanage (S)	Millions of migratory birds can be affected	2
19	Pethum Bandara	Same as Jaliya Gunasekera letter (Letter 05)	Same response as for Commenter 5
20	Rajeev Abeysekara	Same as Jaliya Gunasekera letter (Letter 05)	Same response as for Commenter 5
21	Prasad Hapuarachchi	Same as Jaliya Gunasekera letter (Letter 05)	Same response as for Commenter 5
22	Thilini Samarakoon	Mannar is a critical location for migratory birds movement and interconnected wetlands are essential for them. Project may destroy them	2, 3, 7,8, 21
		Migratory patterns and bird habitats can be affected. Critical oversights regarding movement corridors and seasonal bird behavior are required	1, 2,3,7,8,21
		GPS tracking shows that the proposed bird corridor will not be effective. The EIA has not prepared properly (wrong timing, Lack of Technological Integration)	10,11,12
		Biodiversity can be affected	All responses on birds, ecology, biodiversity are relevant
		Alternatives should be considered	36
23	Krishan Wewalwala (President: Biodiversity Education and Exploration Society)	Historical values of Mannar island affective	32
		Fisher communities can be affected	28 A & B
		Sensitive ecological habitats affected	All responses on birds, ecology, biodiversity are relevant
		Wrong timing, and wrong season, satellite data not used	10, 11, 12
		Credibility of the report's conclusions are questionable	This is only an opinion and a very general statement – He doesn't define what is 'not credible' and 'why is it not credible', hence we cannot respond to such a supervisial comment
		Bird corridor not properly established	8, 7
		Locally and Internationally Important protected areas can be affected	21
		It is requested to remove Adams Bridge National Park from the list of national parks and release Weditalativu from its protected status	22
		The Thambapavaniee caused more bird deaths than estimated, suggesting the proposed wind farm may pose greater environmental risks	16, 14

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
24	Shirmal Silva	Sri Lanka, the final landmass on migratory bird routes, must protect both its biodiversity and the historic Mannar region.	1,2,3, All responses on birds, ecology, biodiversity are relevant
25	Nithma Hewawellalage	Same person and the letter (Letter 09)	Same person and letter as Comment 9
26	Dr.R.M.Gunasinghe, Thalawathugoda	Same as Devika Rajasuriya letter (Letter 06)	Same response as for Commentor 6
27	Prof.Chandanie Wanigatunge	Same as Jaliya Gunasekera letter (Letter 05)	Same response as for Commentor 5
28	Amila S Fernando	A critical wintering site for migratory birds can be destroyed	21
		Migratory birds and the biodiversity of the region can be affected	1,2,3
		Clearing of best forest patches in the Mannar island and loss of habitat for birds:	19
		Stop the project in Mannar and consider alternative sites	36
		The EIA should be rejected and should relocate the project	CEA to comment
		CEA not properly involved with the process	CEA to comment
		Alternative sites should be considered	36
		Already signed agreement (if any) may destroy Mannar's unique biodiversity and need to be revised	1,2,3
29	Rashmi Bopitiya	EIA was not prepared properly.	33
		Inadequacies in bird observation data.	10,11,12
		Inappropriateness of proposed bird corridor	8, 9, 7
		Significance of cost considerations in the decision-making process, questions whether due weight was given to associated financial concerns.	35
		CEA should reevaluate the EIA to ensure decisions are made with consideration for long-term environmental impacts and the well-being of future generations	CEA to comment
30	Seylie Chaster	Millions of birds migrate along the Central Asian Flyway can be affected	1,2,3
		Turbines pose collision risk to birds	14
		Bird corridor not properly established	8,9,7
		Limited response time of Radar detectors make them ineffective for	14-A

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
		collision prevention and EIA was not prepared properly.	
		EIA should be revised with including alternative sites	36
31	Yugaa Nallusamy	Same as Jaliya Gunasekera letter (Letter 05)	Same response as for Commenter 5
32	Amila S Fernando	Same person and the letter (Letter 28)	Same person and letter as Comment 9
33	Lochana Kumarasiri	Same as Jaliya Gunasekera letter (Letter 05)	Same response as for Commenter 5
34	Dilupa Nirmal	Since more than a million migratory birds (150 bird species from thirty countries) come to the Mannar, it is a center of the CAF. This can be affected	1,2,3
		Sri Lanka's biodiversity and tourism industry may be affected	30, 31
35	Sineth Dilupa	Same as Dilupa Nirmal letter (Letter 34)	Same response as for Commenter 34
36	Shanthi Wilson	Request to share the thoughts of other emphasizing no windmills in Mannar	CEA to comment
37	Nirosha Rathnayake	Same as Jaliya Gunasekera letter (Letter 05)	Same response as for Commenter 5
38	Madura De Silva (President, Wildlife Conservation Society, Galle)	Migratory birds can be affected, and actual economic benefit of the project is questionable	35, 30, 31
		A critical wintering site for migratory birds (150 species including 20 globally threatened species) in the Central Asian flyway can be destroyed	1,2,3
		EIA was not prepared properly	33
		The CEA should reevaluate the EIA to ensure decisions consider migratory birds and the conservation of their vital habitats.	CEA to comment
		CEA should consider alternative sustainable energy solutions	36, CEA to also comment
39	Emeritus Professor S.W. Kotagama	Wind turbines have not properly located in the island	7, 8, 9, 19, 21, 24, 25, 26
		No proper strategic assessment has been conducted on the island before selecting wind turbine locations to avoid cumulative negative impacts	37
40	Sunethra Senanayake	Same as Jaliya Gunasekera letter (Letter 05)	Same response as for Commenter 5
41	Prof. Sampath S. Seneviratne & the team, University of Colombo	EIA has violated the Sri Lanka's laws by preparing an EIA based on incomplete TOR without consulting some key stakeholders	33, 34

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
		Avifauna study has been poorly designed	15
		Inadequate literature reviews	13
		Disregarding of International Conventions signed by Sri Lanka	15
		Migration studies has not properly conducted using published and publicly available scientific data including GSM-GPS tracking data	12 – B, 13
		Bird corridor not properly established (12 towers within the corridor)	8, 9, 7
		Clearing of best forest patches and loss of habitat for birds	19
		EIA does not adequately address the direct and indirect impacts on social wellbeing	24, 25, 26, 27, 28
		Availability of alternative sites have not studied	36
		Total land to be used for the project is uncertain – accepted and the corrected through an addendum	40
		Impact of the transmission lines and the electrocution not properly studied	16
		Constructing of wind turbine in buffer zone would harm the PA	21
		Collision risk assessment not properly conducted	15
		The method of discharging sediment water has not properly mentioned	27
		The measure of determining the sufficient distance from the sensitive social receptors have not mentioned	26
		The impacts of flood have not mentioned	29
		Mitigation measures regarding the effects of sensitive area, and critical fauna and flora have not properly mentioned	21, 19, 2, 3 7
		<i>Saccolaimus saccolamus</i> (CR) has not considered for the risk assessment and <i>Pipistrellus coromandra</i> (VU) already affected by Thambapavani wind farm	20
		No systematic investigation has conducted on the indirect impact on marine life.	23
		As the letter dated 16 February 2023 by the Department of Fisheries and Aquatic Resources (Annexure 1.1) requests their observations to be	CEA to confirm

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
		considered in the preparation of the TOR, this has not been done.	
		Study have not utilized modern technological tools like AVISTEP for project planning	12 – A
		Comprehensive review of EIA	CEA to comment
		Alternative sites should be considered	36
		It requires a public hearing at Mannar and/or Colombo	CEA to comment
		CEA and SLSEA should identify environmentally safe zones for renewable energy projects	36
42	Mannar Bird Club, Association for Women Empowerment & concerned citizens of Mannar	Project will be affected on the migratory bird corridor and wildlife-based tourism and economy	1, 2, 3, 21, 30, 31
		A critical wintering site for 15 million birds that coming from 30 countries (150 species including 20 globally threatened species) in the Central Asian flyway can be destroyed	1, 8,7
		International Convention on Migratory Birds may violate	18
		Mannar provides breeding sites for >18 water birds species and about 20 forest bird species. Most of them are CR in Red List	7,6,8, 19, 21
		Cultural heritage of the island may be destroyed.	32
		Will severely hinder burgeoning eco-tourism prospects	30, 31
		Wrong timing and season	10, 11
		Lack of technological integration	12
		Lack of emphasis on international conventions	18
		Disregard for existing information	13, 12-B
		Impact of the transmission lines not properly studied	16
		The impacts of flood will affect the local community	29
		Introducing further disturbances would exceed the carrying capacity; Mannar area could collapse the ecological and economic balance	38
		Alternative sites should be considered	36
43		EIA has been conducted according to non-approved ToR	33

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
	Keshan Perera (Chairperson - Youth Wing)	Disregarding of International Conventions signed by Sri Lanka	18
		Some investigations which should be done have not been considered and methodologies used for the EIA have not clearly mentioned	Too general to respond. To
		Some of the proposed mitigatory methods are not clearly mentioned	Too general to respond. To
		Alternative sites should be considered	36
		Requesting to revise the EIA in a methodical manner	CEA to comment
		Proposed project will damage the migratory routes	1,2,3,7,8
		Executive Summary: Impact of the transmission lines not properly studied	45
		Radar technology may affect communication of sensitive creatures	39
		Constructing of wind turbine in buffer zone would harm the PA	21, 14 B
		Collision risk assessment not properly conducted	16
		The method of discharging sediment water has not properly mentioned	27
		Vibrations and noise impacts have not examined thoroughly	41, 25, 5
		The final transport routes have not been discussed yet	42
		Exact total land acquired for the project has not confirmed	40
		Effect on flora have not addressed properly	19
		Internal water resources may affect	27
		Eco-tourism sector may collapse	30, 31
		Flooding risk will increase	29
		Reduction of forest cover will impact on human and wildlife	19
		Section 01: The bird survey has not properly conducted (wrong season, wrong timing)	10, 11, 12
		EIA members haven't conducted discussions with researchers as stakeholders	The purpose of exposing the EIA report for a period of 30 working days is to provide the opportunity for researchers, subject experts, and the public to raise concerns and to assess the contents. This is embedded in the process itself to increase the viability and visibility of the proposed project. We believe

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
			that this has been achieved in the current case.
		Inappropriateness of proposed bird corridor/ lacking scientific data	7,8,9,12
		Foreign company will utilize natural resources of Sri Lanka	This is true but the process will take place through a formal agreement to provide electricity to Sri Lanka.
		<i>Scotophilus kuhlii</i> (DD) and <i>Hesperoptenus tickellii</i> (DD) colonies located in the island and they can be affected with the project	20, 23
		The proposed construction of wind turbines in the birds' flight path could severely disrupt their natural behaviors and movements, posing a substantial risk to the delicate biodiversity of the ecosystem	1, 3, 5, 7, 8, 9
		No proper indication of the project impacts on mangroves and mangrove associated fauna	14 B, 21
		Mitigation measures on the impacts of wetland avifauna have not discussed properly	2, 7, 14
		Mitigation measures on the potential effects on the sensitive area, and rare, threatened and endemic faunal and faunal assemblages at turbine locations are vague	14 B, 2, 6, 7, 19, 21
		Threatened species like <i>Chaerophon plicatus</i> , <i>Saccolaimus saccolaimus</i> , <i>Sitana dewakai</i> can be affected and the ecosystem can lead to unfavorable outcomes	Terrestrial fauna - 19, bats - 20, 39
		Loosing this sensitive ecosystem could lead to a global threat for the species	1, 2, 3
		Section 04: The clearance of vegetation could disrupt natural life cycles in the area and lead to the destruction of habitats for various faunal species	19
		Loss of aquatic habitat for both aquatic and terrestrial fauna	14-B, 19
		EIA Annex 9_Avifaunal Study: Several critical habitat populations could be affected	19, 14 B
		There is a clear lack of data on the bird survey	10, 11, 12, 13
		Turbines will block the flying routes of birds	1,2,3,7,8

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
		This will be huge risk for both migrant and local birds	1, 2, 3, 7
		Satellite tagging data collected from UoC have not utilized	12-B
		EIA has mentioned that they haven't observed larger number of birds flocks	15 A, the avifaunal study is specific to survey period and location and comment is the result of this survey. However, the impact assessment is based on long term observations and has therefore proposed precautionary measures taking into consideration the possibility of large flock been present in the proposed area
		Removing of the vegetation will cause number of negative impacts	19
44	W.K. Wathsala Wickramaratne, Wewasiri, Ambewila, Pallebedda	Environmental and social impacts of renewable energy sources should be highly considered	This is outside the scope of the TOR, these are usually addressed through a sectoral SEA, thus an energy sector SEA is recommended. As for this project, a thorough social and environment assessment has been completed.
		This project will cause many negative impacts than positive impacts	This is outside the scope of the TOR, these are usually addressed through a sectoral SEA, thus an energy sector SEA is recommended. As for this project, a thorough social and environment assessment has been completed.
		There should be an opportunity for general public to input their valuable comments	That opportunity has already been granted through the 30-day Public Commenting Period according to the stipulations of the National Environmental Act. A further opportunity will be granted as a Public Hearing, on the discretion of the CEA depending on the severity of impacts.
		An alternative site should be considered	36
45	Lanka Environment Fund, No.58,	Migratory routes of the birds have not considered and constructing of wind turbine in buffer zone would harm the PA	14 B, 7, 8, 21, 1, 2, 3

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
	Church Street, Fort Galle	Since the proposed area is biodiversity rich and ecologically sensitive, turbines should be relocated to areas outside PAs	14B, 21, 36
		Though the EIA report says only scrub vegetation would be cleared for the project, clearing areas for turbines located in the buffer zone would inevitably involve the clearance of mangrove and secondary forests	14 B, 21, 19
		Information regarding the proximity to Vankalai and Vidaltive are misleading, and this misrepresentation downplays the impact of turbine on the PAs and wildlife	The EIA has not in any way provided misleading statements. See responses 14-B, 21
		Reliability of the EIA report is questionable	43
		Environmental considerations should be fully integrated into the planning and execution process	43, Chapter 5 (mitigation), Annex 6.1 and 6.2 (monitoring)
		Alternative sites should be considered	36
		Should enhance avian collision mitigation strategies	14, 15, 16
		Should conduct more comprehensive biodiversity assessment	43
		Public hearing should be conduct to make a more comprehensive biodiversity assessment	CEA to respond
46-179		Historically (silk route) and environmentally important Mannar region can be destroyed while increasing the risk of destroying inland fresh water resources	21, 27, 32
		Mannar is among four major bird migratory zone in Sri Lanka and provide shelters for about millions of winter migratory waterbirds including 20 globally threatened bird species	1,2
		The EIA report is a false document prepared for green washing the project	Only an opinion, 38 & 43
		Clearing of the limited remaining forest patches in Mannar Island would destroy the protected shelters of migratory birds	19
		Forest loss in Mannar may impact on the entire Eco-tourism sector of the country	30, 31, 19
		Wrong timing of bird study	10, 11
		Wrong seasons of bird study	10, 11

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
		The EIA has not prepared properly (Lack of Technological Integration)	12, 13
		The EIA report has disregarded the importance of CAF and International Conventions related with migratory wildlife	1, 2, 18
		Inappropriateness of proposed bird corridor/ lacking scientific data	7, 8
		With the implementation of the project, energy cost would be further increased in the country risking the long-term sustainability of the project	SLSEA to comment
		Alternative sites should be considered	36
		There should be an opportunity for general public to input their valuable comments	CEA to respond
180 - 332		Historically (silk route) and environmentally important Mannar region can be destroyed while increasing the risk of destroying inland fresh water resources	21, 27, 32
		Mannar is among four major bird migratory zone in Sri Lanka and provide shelters for about million of winter migratory waterbirds including 20 globally threatened bird species	1,2
		The EIA report is a false document prepared for green washing the project	Only an opinion, 38 & 43
		Clearing of the limited remaining forest patches in Mannar Island would destroy the protected shelters of migratory birds	19
		Forest loss in Mannar may impact on the entire Eco-tourism sector of the country	30, 31, 19
		Wrong timing of bird study	10, 11
		Wrong seasons of bird study	10, 11
		The EIA has not prepared properly (Lack of Technological Integration)	12, 13
		The EIA report has disregarded the importance of CAF and International Conventions related with migratory wildlife	1, 2, 18
		Inappropriateness of proposed bird corridor/ lacking scientific data	7, 8
		With the implementation of the project, energy cost would be further increased in the country risking the long-term sustainability of the project	SLSEA to comment

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
		Alternative sites should be considered	36
333 - 404		Rich biodiversity and migratory bird populations in the region can be affected	2,3
		Mannar wetlands are important for approximately 1 million migratory birds and these vital wetlands would be destroyed	2
		Mannar is an internationally recognized critical wintering site of the CAF	1,2
		EIA has not properly addressed the potential impact on the migratory bird population	Broad comment (covered in responses from 1 to 13)
		The EIA has not prepared properly (wrong timing/ wrong season)	10, 11
		The EIA has not prepared properly (Lack of Technological Integration)	12
		The EIA report has not emphasized the importance of CAF and UN Convention of migratory species related with migratory wildlife	1, 18
		Migration studies has not properly conducted using publicly available scientific data including GSM-GPS tracking data	12-B, 13
		Mannar island serves as a vital stopover and refueling site for both local and migratory bird species	14, 18, 19, 21
		Bird tourism, local economy, and the delicate ecological balance in the region can be affected	30, 31
		Alternative sites should be considered	36
		CEA should reconsider the approval of the project with prioritizing the preservation of Mannar's unique ecosystem	CEA to respond
405	Keshan Perera		The bulk of this letter is the same as that in Letter 43 and these have already been addressed Executive summary, Section 1, Section 3, Section 4, EIA annexure 9 Those that have not been addressed are responded to given below.

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
			Large section is as the same as the same as Same response as for Commenter 43
		Project will lead to loss of native biodiversity due to the introduction of invasive species	This is not a pristine environment. However, as a precautionary measure we have identified this issue as a potential problem. Therefore, the report has adequately addressed this as shown below. Exotics plant species found at the site Listed (Annexure 3-3; section 3.4.9) and raised a caution as to some danger due to their spread (Sections 4.3.9, 4.3.10) and also reported that monitoring of their spread in required is important (Section 5.3.5.7 and Annexure 6.1 EMP Con 3, Con 19)
		Inadequate studies to identify impacts and mitigate impacts on marine life	23
		The exact locations for reforestation has not been provided in the report	Since the ownership of lands had not been verified and there was a delay in selection of land for ongoing purposes which had to be done with the concurrence of the forest department and other line agencies. Out of 150 Ha of land proposed to be acquired for permanent facilities, only around 52 ha will be used for the project, and all of the other areas will be released to the community. Hence the protection of the patches that were excluded would be under threat from development. Hence it is recommended that these are reserved as conservation areas with the intervention of either the Forest Department or the Department of Wildlife Conservation. Further, it is recommended that selected areas may be set aside for natural regeneration to occur. This will be included as

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
			Addendum to the EIA report. A plan for proposed replantation has been included in the report (Annex 5 -3).
		Doubts expressed on proper implementation of EMP by the contractor	The report has explicitly addressed the need for supervision of project related work – See sections 7.2.2 (work implementation arrangement) – bill of quantity – obligatory requirement of the contractor – this ensures proper implementation
		Reporting to authorities – CEA and DWC	Section 7.1.3 is relevant to this section. Cannot be regarded as impractical as these two are the key line agencies that have the authority to monitor the project and take due course of actions with regard to its operations. This should be considered as a requirement for large scale projects such as this
		Training contractor staff is not effective	This is stated with the intention of creating a skilled group among the SH. During these sessions the knowledge on conservation and management aspects will be enhanced which will lead to better improvement of compliance monitoring
		Nothing is mentioned on negative environmental impacts - conclusion	In Section 8.2 under conclusions, in the bulleted points a conclusive account on environment impacts has been provided.
		Bird collision system is not clear	14
		Inadequacies of the effectiveness of bird deterrents	The recommended deterrents are those that are globally accepted to be effective and hence the project propose to invest on these measures. In Section 7.1.3, we have proposed a monitoring plan which can be used as a basis for the evaluation of effectiveness of the mitigation measures.

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
		Final TOR is not the final	The EIA has been conducted based on the final ToR issued by the CEA. However, owing to an oversight the draft ToR has been included in the annexes. The DWLC was consulted as specified in the final TOR. Although the GSMB was not specified in the ToR, this agency was also consulted during the EIA process. Hence, the EIA report based on the final ToR cannot be considered as incomplete.
		Other than birds, times of surveys for other fauna and flora could not be found in the EIA	Seasonal movement of other fauna (with the exception of the birds) is not observed in the area. Further, the data provided in the EIA report was not only based on the short-term survey conducted for this project but on observations in the proposed site over the long term as experts have been involved in multiple projects in this region. Therefore, there is no specific need for mentioning survey period for other fauna and the flora other than for the birds.
		No objection letter from the DWLC not included	Accepted and this is pending. However, it must be highlighted here that the DWLC which was considered as an important stakeholder by the EIA team, was consulted. The entire report was scrutinized by the DWLC prior to the first Technical Evaluation Meeting that was held before finalizing the EIA for the public review. Certain clarifications were made by the DWLC at this meeting with respect to ecological concerns. The minutes of the first TEC meeting is available with CEA.
		As the letter dated 16 February 2023 by the Department of Fisheries and Aquatic Resources (Annexure 1.1) requests their observations to be	CEA to confirm

Letter No	Author/ Organization/ Position	Main Concerns	Relevant Response
		considered in the preparation of the TOR, this has not been done.	
		CEB power purchasing agreement is not available	SLSEA to confirm
406	Prof. Sampath S. Seneviratne & the team, University of Colombo	Same letter as Letter 41	Same response as for Commenter 41
407	Mannar Bird Club, Association for Women Empowerment & concerned citizens of Mannar	Same letter as Letter 42	Same response as for Commenter 42
408	Dr. P.A.S.U.Panagoda	Alternative site should be considered for the project	36
		Mannar island is a critical ecosystem for migratory birds and more than a 1/3 of the birds visit the country along this area	1,2,3
		Mannar island provides breeding ground for about 11 endangered local bird species	1,2,3
		Three protected areas have been declared in the area and bird movement among these areas can be interrupted	21, 7, 8
		Sri Lanka's biodiversity and tourism industry may be affected	30, 31
		International Convention on Migratory Birds may violate	18
409	Rangika Perera (WNPS; Senior manager- Administration & Sustainable Initiatives)	Violate the prevailing laws; EIA has been conducted according to an incomplete ToR and they haven't consulted some of the key stakeholders	33
		Data collection process preceded the approved ToR	Using long term data would only strengthen the possibility of predicting possible environmental impacts and for identifying components of biodiversity which are critical. Hence the report did not base its assessment of impacts and recommendations for mitigating these impacts on short term data. Thus, it is inevitable that data used for the EIA report would contain data that was collected long before the TOR

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			has been issued. This is indeed a strength of the EIA report.
		Even though the project site is part of the CAF, EIA report has prepared without capturing the migratory season	7, 8. 1, 2
		The scientific base and the methodology used for analysis of the EIA (Eg: Collision risk assessment modeling) are not robust	16
		Direct and indirect impacts on societal well-being have not been addressed properly	24, 26, 27, 28, 29, 30, 31, 32, 25
		Since the project may impact on biodiversity, ecosystem services, migratory birds, sand dune and local communities, cumulative impact of the project should be reconsidered and reevaluate	38
		Alternative sites should be considered	36
		Public hearing should be conduct at Mannar and Colombo to make a more comprehensive biodiversity assessment	CEA to comment
		Annex 1: Important protected areas can be affected	21
		Report has overlooked the critical danger that this project will have on birds of high conservation significance	14 B, 21
		According to CAF-SLWTP this area is occupied by 122 species of water birds (out of that 20; globally endangered, 10; nationally endangered) and they can be affected	1,2
		For some of these water bird species, Mannar has been identified to be the only breeding site in the whole of Sri Lanka	Accepted and therefore all sites of critical importance were avoided 14 B, 21
		Convention on Migratory Species (CMS) can be violated	18
		Vankalai Sanctuary (Ramsar wetland) is an important breeding, feeding and resting site for various living creatures while it supports to the livelihoods of fisheries dependent local communities. These sanctuaries can be affected	21, 14 B

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		International Convention on Biological diversity may be violated	18
		Site selection should be done based on scientific data and by integrating expert and local knowledge	21, 14 B
		IUCN guidelines recommend avoiding siting renewable energy projects in areas of high biodiversity significance	Sensitive areas have been avoided 14 B, 21
		Executive summary No proper assessment has been conducted for the project to avoid cumulative negative impacts	38
		Impacts of vegetation clearance, transmission line, and potential electrocution have not been analyzed	19, 45 • Electrocution is due to overhead cables and transmission lines and hence we have recommended that these be laid as overhead lines (Section 5.4.1.2). In any case we were notified that the assessment of the <u>impacts of the transmission line would be conducted under a separate EIA / IEE under the purview of the CEB</u> This would cover the feasibility, design of the transmission line and the EIA. • Therefore, no detailed effort was put into ascertaining impacts owing to transmission lines. • However, as a precautionary measure we have emphasized that, in lieu of the expected collision impacts on birds, transmissions lines are laid underground see also comment under response 16.
		Radar technology may affect the communication of sensitive creatures (aquatic fauna)	39
		Impact of the wind turbines on species specific characteristics have not been adequately investigated	Comment is broad and is addressed through response 16, 17, 19, 14 B, 20

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		Migratory routes of the birds have not considered and constructing of wind turbine in buffer zone would harm the PA and would affect the overall ecological integrity	14 B, 7, 8, 21, 1, 2, 3
		Further details of the collision risk assessment should be provided to fully understand the model applicability and limitation	16, 17
		The method of discharging sediment water has not properly mentioned	Refer section 5.3.6.3, EMP 6.1. Con 8 & 10, 27
		Vibrations and noise impacts have not been examined thoroughly	41, 25, 5
		The final transport routes have not been discussed yet	42
		The study has not mentioned any recovery method for the damage caused to the endemic/threatened flora and their associated fauna	Addressed in section 19 and 25 – where critical locations have been avoided, and recommendation of land to be released for protection
		There is a statement in the report as “project will not have major adverse impacts on species of flora in the overall landscape”. But this is contradicting with the statement “some threatened and endemic species were found in the areas that will be cleared”	- Overall the impacts due to the project have been minimized due to the recommended mitigation measures. - Given that nearly all of the land is under private ownership there will be a significant impact even due to the no project alternative. However, as reported, there will be some specific impacts on plants and therefore we have indicated that 5.3.3.1, 5.3.5.1 and 19 where we recommend that suitable areas be considered for protection.
		It should present the names of species that will remove from the area, potential impact and mitigatory measures	The notable large trees comprised palmyra and coconut which will be felled. During the micro siting exercise areas where large native trees were found were avoided. The actual number of such trees that would be felled could only be verified after the layout plan has been finalized on the ground. As a precautionary measure we included mitigation measures as

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			mentioned above. Any felling has to be done under the purview of the authorities (Forest Department, DWC Section EMP Con 18 & 20)
		Details about the external water sources are absent	SLSEA to comment
		Report has not mentioned about how to dispose wastewater will be released Procedures for waste management have not been described adequately	See sections 5.3.6.3 to 5.3.6.8 , 5.4.5, EMP Cons 7, 8, 10, 11, OPR 4, in the EIA report
		Details about the community consultations and determining sufficient distance from turbine to sensitive social receptors are absent	See Annexure 3.4. 25, 26 During the community consultations conducted, people did not mention any particular distance from the turbine to sensitive social receptors
		Insufficient details on the protection system (for sea level rise impacts)	As per the current prediction for sea level rise in Sri Lanka will see a 30 cm sea level rise in the next 100 years (Gunathilaka and Kannangara, 2021). Journal of Geiospatial surveying. DOI: http://doi.org/10.4038/jgs.v.112.30 The nearest turbine to the coast is located at 110 m. Hence there will be no impact of sea level rise on turbines. Therefore, no specific mitigation measures have been specified.
		Eco-tourism sector may collapse	30, 31
		Requesting the project proponent to include the value of ecosystem services in their cost benefit analysis	35 – This was included as a new addendum
		There is a clear risk of flooding and coastal inundation. But the impacts from floods have not been considered adequately	29
		Replantation have not been described adequately	Since the ownership of lands had not been verified and there was a delay in selection of land for ongoing purposes which had to be done with the concurrence

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			of the forest department and other line agencies. Of 150 Ha of land proposed to be acquired for permanent facilities, only around 52 ha will be used for the project, and all of the other areas will be released to the community. Hence the protection of the patches that were excluded would be under threat from development. Hence it is recommended that these are reserved as conservation areas with the intervention of either the Forest Department or the Department of Wildlife Conservation. Further, it is recommended that selected areas may be set aside for natural regeneration to occur. This will be included as Addendum to the EIA report. A plan for proposed replantation has been included in the report (Annex 5 -3).
		Bird collision risk assessment has not been conducted properly	16, 17
		Section 1 Key migratory route development needs to assess at least 5 years of data as there are seasonal variations. This is also important to identify globally important vagrant species visiting the Mannar Island. But the bird survey has not been conducted during the migratory period.	4
		Issued ToR and the data presented do not provide the true diversity and magnitude of resident and migratory avifauna. This can have an on the accuracy of bird collision risk assessment as well.	Annexure 9, Annexure 3.3, Responses 6, 7, 16, 10, 11, 12
		The correct periods of studies conducted are not clear and consistent	10, 11
		The collision risk model used for this study should be fully transparency	16
		Researches and academic experts of the region have not consulted as a stakeholder	The Central Environmental Authority has taken a holistic approach in

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			preparing the TOR for the EIA covering environment, social and economic aspects. The EIA has accordingly addressed all the aspects according to the TOR provided. The EIA has been conducted by a multidisciplinary team of experts using expert opinion, field surveys, monitoring, model studies, referring published literature from recognized agencies such as ADB, WB, USEPA. The impact identification, analyses evaluations were supported by the above studies, as well as expert opinion in order to develop appropriate mitigation measures. • As is the accepted procedure of the EIA process, the report was open to the public for 30 working days to facilitate public comments on the EIA report so that any omissions or further concerns could be addressed when finalizing the project. The EIA process in Sri Lanka comprises of many systematic steps that allows for fact-based identification and evaluation of the significance of impacts and to derive the most appropriate and cost-effective mitigation measures with participation of all parties including the public
		Bird movement and soil biota can be affected by proposed arrangement of the transmission line	19, 25,
		Utilize remotely conducted avifaunal survey data, including satellite tagging, to enhance accuracy	12 B
		Constructing wind turbines in the buffer zones of the PAs are questionable	21

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		Citizens of the country are required to pay a foreign company for the consumption of our own energy	SLSEA to comment
		Section 2 Exact total of land acquired for the project remains uncertain	40
		Most of the patchy habitats will be disturbed for both migratory birds and native fauna. Access road network will cause for the fragmentation	19
		Piling process will cause noise pollution and this impact will be critical during the migratory season	This has been addressed in Section 5.3.5.3 table 5-4
		Some sites are expected to undergo cast in-situ piling which can make concrete supply mandatory causing soil and water quality issues	During cast in-situ piling, several technical measures are implemented to control concrete waste and pollution. Spill containment trays and geotextile barriers are used around concrete pouring areas to capture and filter spills, preventing soil and water contamination. Concrete washout systems, including designated washout pits and portable washout containers, collect and treat wash water, with sedimentation tanks allowing particulate matter to settle before water is reused or discharged. Slurry management systems separate and recover water and fine particles from drilling slurry. Dust suppression measures, such as water sprays and physical barriers, control dust emissions. Recycling of excess concrete involves crushing and reusing it as aggregate. Regular site inspections, environmental monitoring, and worker training ensure compliance with pollution control protocols. These measures collectively reduce environmental impact and maintain site cleanliness during construction. These practices are included in the contractor Environmental

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			Action Plan and made mandatory to implement by bounding the contractor as a contract item. Hence, we do not consider dedicating a separate paragraph on this in the EIA
		Dewatering process of piling will alter the water quality of the remaining waterways inadvertently	This has been addressed in Sections 4.5.1.3, 5.3.6.1, Annexure 6.1 Con 7
		Report does not provide a detailed description about avifauna detection mechanism	14 A
		A sensitivity analysis and early project planning must be conducted in a systematic manner prior to selecting sites	36, 38
		It is not clear whether the project will utilize overhead transmission lines. If overhead transmission lines are used, they can have a significant impact on birds	45
		Section 3 No proper indication of the project impacts and mitigation measures on mangroves and mangrove associated biota	14-B, 21
		The use of term “scattered” for mangrove ecosystem is misleading as it is the character of mangrove distribution in this region	14-B, 21
		Mitigation measures on the impacts of wetland avifauna have not discusses properly	7, 14, 21
		Some turbines are located inside the buffer zone and at the borders of the proposed bird corridor. There is no clear evidence provided on the effectiveness of a ‘bird corridor’	21, 8, 9
		Mitigation measures on the potential effects on the sensitive area, and rare, threatened and endemic faunal and faunal assemblages at turbine locations are vague	14 B, 2, 6, 7, 19, 21
		There is no indication of how tourism will be affected by the proposed wind farm project	30, 31
		Threatened species like <i>Chaerephon plicatus</i> , <i>Saccolaimus saccolaimus</i> , <i>Sitana dewakai</i> can be affected and the	19

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		ecosystem can lead to unfavorable outcomes	
		The loss of the unique ecosystem in Mannar will lead to a global threat for the birds that use this corridor, and there is a possibility that this will be the biggest loss of migrant species in the world	1,2,3
		The EIA report has not adequately considered the impacts of barotrauma on species, especially bats	20
		Section 4 The clearance of vegetation could disrupt natural life cycles in the area and lead to the destruction of habitats for various faunal species	19
		Loss of aquatic habitat for both aquatic and terrestrial fauna	14-B, 19
		This kind of mass constructions will lead to the introduction of invasive alien species (IAS)	This is not a pristine environment. However, as a precautionary measure we have identified this issue as a potential problem. Therefore, the report has adequately addressed this as shown below. Exotics plant species found at the site Listed (Annexure 3-3; section 3.4.9) and raised a caution as to some danger due to their spread (Sections 4.3.9, 4.3.10) and also reported that monitoring of their spread in required is important (Section 5.3.5.7 and Annexure 6.1 EMP Con 3, Con 19)
		Section 5 No systematic investigation has conducted on the indirect impact on marine life	23
		Section 6 Exact floral species within the scrub jungle need to be identified/presented and exact locations of the reforestation should be provided	Since the ownership of lands had not been verified and there was a delay in selection of land for ongoing purposes which had to be done with the concurrence of the forest department and other line agencies. Out of 150 Ha of land proposed to be acquired for permanent facilities, only around 52 ha will

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			be used for the project, and all of the other areas will be released to the community. Hence the protection of the patches that were excluded would be under threat from development. Hence it is recommended that these are reserved as conservation areas with the intervention of either the Forest Department or the Department of Wildlife Conservation. Further, it is recommended that selected areas may be set aside for natural regeneration to occur. This will be included as Addendum to the EIA report. A plan for proposed replantation has been included in the report (Annex 5 -3).
		Section 7 Inadequate implementation of the EIA process, specifically regarding the contractor's responsibility to carry out surveys, monitoring, and implement the SSES MAP due to resource limitations and a lack of oversight during construction	43
		The monitoring reports do not necessitate any actions to prevent damages, and if construction works continue for an extended period, the resulting prolonged damage may become irreversible	6
		Training the contractor's staff is crucial. However, previous studies indicate that the implementation of SSES MAPs often didn't occur due to insufficient capacity and resources	It is need to provide comprehensive training for all contractor's staff before they begin work on wind farm. This training should cover general health and safety procedures as well as specific hazards and risks associated with working on wind turbines.
		If the project takes place, within one month migrant species could alter their behavior, avoid CAF, increase mortality, and decline the migratory bird population	1, 2, 3

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		Annex 9 Several critical habitat populations could be affected	19, 14 B
		Cumulative impact of all the turbines together has not been adequately considered	38
		There is a clear lack of data on the bird survey	10, 11, 12, 13
		Turbines will block the flying routes of birds	1,2,3,7,8
		Flight direction of birds and bats have been recorded if they only fly through the area	There are no directional movements of bats. See comment 3 for movement of birds.
		Even though the report has recognized Mannar Island's biodiversity and important ecological characteristics, it refrains from presenting the true magnitude of the impacts from the project	20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 32, 35, 39, 41, 43, 45
		The Thambapawani wind farm experiences more bird collisions than what the project proponent anticipated. Phase II will also face the same consequences unless detailed studies are conducted and the existing scientific base is used to derive informed decisions	12, 13, 14, 15, 16
		Satellite tagging data collected from UoC have not utilized	12-B
		EIA has mentioned that they haven't observed larger number of birds flocks	15 A, the avifaunal study is specific to survey period and location and comment is the result of this survey. However, the impact assessment is based on long term observations and has therefore proposed precautionary measures taking into consideration the possibility of large flock been present in the proposed area
		<i>Scotophilus kuhlii</i> (DD) and <i>Hesperoptenus tickellii</i> (DD) colonies located in the island and they use palmyra trees as roosting sites. They can be affected with the project.	20, 23
		Removing of the vegetation will pose a severe threat to the bat and birds	19, 20
		The most important migratory species have been overlooked and proposed	1, 2, 5, 7, 8, 9,