

Comment No	EIA Pg No	EIA Section reference	Comment
			Q: The benefit that can be felt throughout the country is the addition of a power source to the main grid. However, it does not justify the long-term cost need to be borne by the taxpayers, as well as the loss of livelihoods with inadequate compensation and damage to livelihoods which are not covered by this report. Example, the loss of ecotourism potential in the area. Avoiding a planned tourism zone during construction and operation is not a beneficial outcome, when the long-term impact on the main tourism aspect, wildlife, especially the avifauna surrounding tourism is impacted. R: With respect to tourism read responses 30, 31. The proposed planned tourism zone does not overlap with the windfarm project area. The closes turbine two turbines are located around 300 m and 1 km away from the (T59 and T1) the marked-out tourisms zone, See section 3.6.4. Q: As the migratory bird season are attracting tourists from all parts of Sri Lanka and around the world. Which will have a negative impact, which is not covered by this report. Therefore, in terms of looking for possible energy development methods, we will be causing negative impacts to the country's economy in the long term. R: See responses 30, 31
126.	242		Q: "However, there are also possible negative effects, including land acquisition and potential harm to palmyra and coconut plantations, and increased traffic on already-existing roads." - Suggesting that these are "possible" negative effects shows that the report is giving a false narrative instead of giving the actual impacts as it should give. Cutting nearly 10,000 palmyra trees alone will not be reducing impacts. Furthermore, this will highlight that the project will not improve any socioeconomic aspects in Mannar. R: This is only a matter of opinion. See response 44.
127.	242		Q: "The project could be made environmentally and socially acceptable with the implementation of all the proposed mitigation measures through the Environmental Monitoring and Management Plan and the Resettlement Action Plan." - The project violates the terms of EIA by failing to justify as to why other alternative sites cannot be selected. By not giving proper alternative locations to reduce socio and

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			environmental impacts. <i>R: See response 36</i>
128.	242		Q: "There is significant social impact from the proposed project in terms of land loss. Parts of many private properties must be acquired. However, there will not be any resettlement of households and only lands will be acquired. This was mainly due to the careful turbine location adjustments" - The report conclusion seems to only highlight the loss of land as an impact, when the resulting loss of livelihood is neglected. The careful turbine location adjustment or micro siting has failed to protect vegetation that according to the EIA itself are identified as breeding and feeding grounds for both migratory and resident avifauna. <i>R: This has been adequately dealt with under section 5.3.1 (mitigating land acquisition impact including livelihood), section 5.3.2. Impact on palmyra resources user, Section 5.3.3. (information dissemination and GRM)</i> <i>Read also response 44.</i>
129	242		Q: "Except for the restricted area i.e., 95mx90m hard standing area including 27m diameter turbine foundation, all other areas will be available for usual agricultural activities such as agriculture crop growing, palmyra toddy tapping etc." –Toddy tapping will be significantly impacted when nearly 10,000 trees are removed for project activities, The remainder of trees that are not impacted will continue to be used. However, that was never part of the impact zone, and claiming that continuation of palmyra toddy tapping will continue outside of the 27m turbine buffer is stating the obvious and distracting from the actual social economic and environmental impact. <i>R: See exact details in response 44</i> <i>Toddy can be tapped only from mature female plants and therefore the number of trees affected will be less than 50 %. It should also be noted that although Palmyra is extensively grown in Mannar toddy tapping was not seen to be a major source of income. The informal nature of this practice also meant that information on any toddy tappers and the productivity in this aspect was not available. The</i>

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			<i>CSR activities will promote all livelihood practices related to Palmyra. Section 5.5.4 – sustainable livelihoods</i>
130	242		Q: "Impact on the migratory birds is a prime concern of the project, especially because of overhead internal power cables." - This statement only highlights part of the actual impact. The impact on migratory birds will happen from both turbines and overhead power cables as well other activities such as habitat destruction, loss of feeding grounds etc. With data to support the observations of impact (carcasses) and also the movement of migratory birds, this is neglected in this study. The entire avifaunal study is false with the migratory season not being covered during the surveys as well as not including the threatened species of bats that were reported in this area. R: See response 45 <i>We have strongly recommended that transmission lines (and cables) to be laid underground.</i>
131	242		Q: "According to the bird collision risk modelling carried out, the impact on birds and bats due to wind turbines could be significant. This will be more significant with the overhead internal transmission lines, especially across the identified bird corridor." - The data used to for the modelling only covers bird data collected through the off season of migrant birds. Therefore, the results will be biased towards showing a lack of impact. R: See response 10 <i>Hence, this output should not be considered for decision making such as the approval of the EIA. The study is based on lack of avifaunal data.</i> <i>See Responses 7B and 8</i>
132	243		Q: "There are no objections from the relevant line agencies for the proposed project. Some line agencies have cleared the project with conditions." - DWC approval is not included even though the report claims approval has given. Without declaring the conditions given by the DWC, stating that "no objections have given" from relevant line agencies is a false claim. R: Preliminary letter <i>The DWC reviewed the document during a technical</i>

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			<i>evaluation meeting before it was finalized, and the entire EIA report will be also reviewed by the DWC again. The project no doubt will only go ahead with their consent. Also, any additional conditions / concerns stipulated by the DWC will have to be addressed / included in the Environment Protection License</i>
133	243		Q: "According to the bird collision risk assessment the collision impacts are minor. However, as this project is spread in a large area possible localized conditions may change the predicted bird collision risk. Also, in the case of Thambapawani Wind Power Project, higher bird collision risks than predicted have occurred as there are reported bird collision in the transmission lines." - How can the collision impacts will be minor when the report itself admits that Thambapawani plant resulted in collision more than anticipated according to study? The line itself is contradictory. R: Response 7, 6
134	243	8 CONCLUSIONS AND RECOMMENDATIONS >8.2.2 Recommendations for the Detailed Design Stage - Hydrology	Q: "To assess the actual bird collision risks further bird collision risk assessments are recommended. Based on these studies further mitigation measures could be formulated." - Bird collision assessment including the survey on bird deaths and injuries should be conducted by independent parties and never any organization or party affiliated with the power developers and approving authorities such as CEB, and SEA. R: We have been transparent in conducting the surveys and monitoring (Section 7.1.3) and the requirements of the surveys conducted for the present wind power project goes far beyond this superficial comment.
135.	243	8 CONCLUSIONS AND RECOMMENDATIONS >8.2.2 Recommendations for the Detailed Design Stage - Hydrology	Q: "Overhead cables are not generally recommended as there is a strong possibility of bird collision" - If bird collision is to be considered, the entire project should be overhauled. The project should be made with alternative sites which the EIA has failed to provide R: This is a matter of opinion. See responses on alternatives 36 and management of mitigation of collision risks in 15, 16 and 17.

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136.	244	8 CONCLUSIONS AND RECOMMENDATIONS > 8.2.3 Other Recommendations	Q: "The cable routes intersecting the proposed bird corridor should be made underground to eliminate barrier effect related to collision risk of bird. Places where above ground cables are planned should be installed with visual bird deterrents at appropriate size, color, and the distance on the power line." - The bird corridor is not legally acceptable and is not identified based on any data where it is supported with the data used and methodology. Furthermore, the corridor itself contains turbines which are posing a threat to birds that fly at different elevations which the report also failed to recognize and incorporate as a finding. R: See responses 8, 9
137.	244	8 CONCLUSIONS AND RECOMMENDATIONS > 8.2.3 Other Recommendations	Q: "A dedicated independent study is recommended to find the impact on the fish catch because of the operations of the wind turbines. This study must be carefully conducted as there could be various other contributory reasons to reduce fish catch." - A dedicated independent study should be recommended for bird impact on Thambapawani As well as the current study is carried out by the CEB, and the data is questionable. R: This comment is a mistake, and it should refer to the fish catch. See response 28.
138.	63 (on PDF)	Annex 2-1 Detailed Layout and Foundation Drawings	Q: The annexure gives the Pooneryn Wind Farm WTG Layout instead of the Layout for Mannar. R: This is a mistake on our part. The correct map will be included in the finalized report. However, the foundation drawings are common to both Pooneryn and Mannar.
139.	171 (on PDF)	Annex 3-4 Consolidated Summary of Public Consultations	Q: "The people were interested to know about the project's impact on the migrant birds. They stated that the Mannar is a significant location Sri Lanka for the migrant birds. While it is a remarkable ecology, <u>it attracts tourists to the Mannar area considerably</u>. The SLSEA explained the precaution being made to avoid collisions with birds." Although the impact on the major tourism attractions in Mannar is not considered as a tourism point, and instead only the impact by sound and other visual barriers are considered. This is a negative point

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			of the EIA where the high potential of Tourism in Mannar is neglected and are threatened. While the country is recovering economically, and through the support of the tourism industry, the impact here to the tourism industry is ignored. <i>R: The tourists typically target the protected areas which are congregational sites for the migratory birds. All PA have been totally avoided in lieu of the protection of these migrants. The inland areas do not attract many tourists particularly because there is no designated areas for bird watching here.</i>
140.	234 (on PDF)	Sustainable Livelihood > Introduction to scientific techniques for increasing the paddy yields such as System of Rice Intensification, etc.	Q: The report says and the approvals from the agrarian development also confirms that paddy lands are not falling within the project site area. The project however, covers coconut and palmyra plantations which will be direct impacted livelihoods. Why is that the actual impacted groups are not prioritized to be supported? Are the relevant authorities and social groups consulted for producing and distribution of such materials? Are they identified? And what are the crops or farms that will be benefitted? How many individual/ farms are selected? The report fails to give such information. If this is an extraction of a power point, the information given here is inadequate to comment and therefore cannot be considered as a n acceptable plan where side notes or any supporting information given. Use of Organic Fertilizers, bio-enzymes and any other organic material in agriculture needs to be sourced locally and should be vetted to reduce any ecological impacts by imported materials. <i>R: As there are several stakeholders belonging to different categories this is typically addressed through the Entitlement Matrix which is currently under preparation. The formulation of this matrix is generally done with the collaboration of many parities which is a tedious task. One of the main constraints in order to do this exercise is the informal nature the stakeholders in the project area. Thus, this cannot be done parallel to the EIA which is generally the case with large scale projects such as this. However, this task would be completed prior to the implementation of the project. This is will be done as a separate activity and not done as part of the EIA process.</i>



ANNEXURES AND ATTACHMENTS



Annex 1

CHAPTER 6 - EXTENDED COST BENEFIT ANALYSIS

RESPONSES

K G Saman Kumnara (NIC No. 198133303147).

11. In order to supply the generated electricity to the national grid in Sri Lanka, the Adani and Company proposed unit cost is three times higher than the unit cost charged by the same company in India. *(Translated to English).*

The overall average unit cost for non-conventional renewable energy (NCRE) is 17.61 Sri Lankan Rupees per kilowatt-hour (Rs. /kWh) in Sri Lanka. According to the Central Bank of Sri Lanka's Annual Report 2021, the average unit cost per kWh was Rs. 18.99 in 2020 and Rs. 16.22 in 2021. This analysis has used the average of these two prices, establishing Rs. 17.61 per kWh as the fixed price for the project's lifespan. However, the average selling point unit cost was Rs. 21.67 per kWh in 2020 and Rs. 18.63 per kWh in 2021, resulting in an overall average cost of Rs. 20.15 per kWh in Sri Lanka.

This study aims to demonstrate the minimum annual benefits of the project and has therefore considered the minimum annual value of incremental power supply to the country. Consequently, to calculate the annual value of incremental benefits, the study employed a unit price of Rs. 17.61 per kWh rather than utilizing the higher Rs. 20.15 per kWh rate. Nonetheless, the responsibility of price determination ultimately rests with the government and is contingent upon the power purchasing agreements. For reference, please consult the Central Bank Annual Report of Sri Lanka 2021, Volume 1 (Table 3.2, 3.3 - Pages 103-105).

Center for Environmental Justice (Guarantee) Limited

Clause 8: No funds have been allocated for offsetting flood related impacts at the operating stage.

The total duration of the project, encompassing both construction and operational phases, spans 28 years. An annual allocation of USD 250,618 has been designated to address climate change-related damages, including potential flood-related impacts, during these phases. The total environmental damage cost per year is estimated at USD 4,564,177 in financial terms, with this figure being allocated for the entirety of the construction and operational phases. The corresponding annual economic value associated with this cost is USD 4,335,968.

For the complete construction and operational timeframe, the total allocated cost for climate change-related damages, inclusive of flood risks, amounts to USD 7,017,293. The aggregate environmental damage cost over this period is projected to be USD 127,796,962 with an economic valuation of USD 121,407,114. Ultimately, this economic valuation of USD 121.41 million was factored into the cost-benefit analysis model, reflecting an annual environmental damage cost of USD 4.34 million, which encompasses flood-related damages spanning the construction and operational phases.

Clause 9. Non -title holders of land will not get compensation for their losses. They will only get land development cost and a one-time payment of Rs.100,000.

The total allocated compensation cost for resettlement is USD 2.41 million (economic value), and this amount is entitled to all individuals who will be resettled. However, the final approval of this compensation will depend on the guidelines set forth in the Involuntary Resettlement Policy framework of Sri Lanka. The USD 12.04 million is reflected under the Social Damage Cost, and it is divided into two portions.

An amount of USD 9.64 million has been allocated as the cost for land acquisition, while USD 2.41 million has been allocated as the resettlement compensation cost for all settlers. The total allocation for these purposes is USD 12.04 million, and this amount has been incorporated into the cost-benefit model. It is important to note that adherence to the guidelines outlined in the Sri Lanka's Involuntary Resettlement Policy framework will ultimately determine the final approval and disbursement of the resettlement and livelihood compensations to the affected individuals.

Clause 15. The Extended cost benefit analysis has not considered the cost of the loss of fishery, long term impacts to birds and birds migration and many other ecological impacts.

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 damage, 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.

Environmental Foundation Limited

Clause 1.2.3 Impacts on nature-based tourism

“The Mannar region is renowned for its migratory birds, forming the backbone of an eco-tourism industry that directly relies on bird watching. Any changes in the migratory routes of birds in this area could have profound implications for bird-based eco-tourism in Sri Lanka. This potential alteration could be a significant issue affecting the annual income of Sri Lanka. The high bird diversity in the Mannar region is a primary attraction for bird watchers

who choose Sri Lanka as their destination, underscoring the critical importance of preserving the existing migratory routes in this ecologically significant area. The economic aspects of this facet of the project are highly neglected or not genuinely attempted in the present EIA. This aspect may need developing an economic model incorporating all possible parameters that will suggest relocating the present project”.

This study has undertaken a comprehensive examination of the recreational value derived from the project site, especially concerning bird watching destination. A careful impact assessment has been carried out to determine the prospective effects of the proposed project development on ecotourism operations of the area.

Consequently, the economic model has allocated USD 127,591 as an annual loss of recreational economic value for the project area, in consultation with previous studies and estimated total loss for the entire project period is estimated as USD 3.57 million in economic price. The total estimated damage value falls under four broad service areas: Regulating services, Cultural services, Provisioning service, and Supporting service, with 19 sub-specific environmental service areas. Ultimately, the total annual environmental damage has been estimated at a financial price of USD 4,564,177 and has been included in the economic value of the cost-benefit model as USD 4,335,968 (USD 4.34 million) per year.

The consultant has tested this economic model to recheck the project's economic feasibility with several sensitivity scenarios. A 10% total benefit decline scenario has been used, and the model reported feasible results as 22% of EIRR and USD 331 million of ENPV. Additionally, an extreme sensitivity scenario with a 25% decline in all benefits, including environmental, social, and incremental power supply, has been re-checked. In this extreme case, the model has reported positive results again, with an EIRR of 18.30% and a NPV of USD 203 million. This study tested and reported 4 standard sensitivity scenarios. Finally, this economic model has included all social, environmental, and economic parameters, considering all impact areas related to the above four broad environmental service areas.

1.2.5. Other concerns

The significance of Mannar Island as a hub for migratory birds and a hotspot for bird diversity, supporting an eco-tourism industry, adds an additional layer of complexity. Potential alterations to migratory routes pose potential economic repercussions for the region, affecting income derived from bird-based eco-tourism.

This study undertook a comprehensive examination of the recreational value derived from the project site, with a particular focus on its significance as a bird watching destination as part of eco-tourism. A careful impact assessment was carried out to determine the prospective effects of the proposed project development on the ecotourism operations of the area. Existing ecotourism operations may face some disruptions or constraints because of the project. However, there will be substantial opportunities for the continuation of existing ecotourism activities.

Consequently, the economic model allocated USD127,591 as an annual loss of recreational economic value for the project area, in consultation with previous studies. The estimated total loss for the entire project period is USD 3.57 million in economic price. However, the economic value of annual incremental power supply benefits to the economy are USD 51.512 million, exceeding the annual environmental damage cost of USD 4.34 million, which

includes the loss of income generated from ecotourism activities. Comprehensively, the total incremental power supply benefits for the economy are USD 1.339 billion, and the total environmental damage cost is USD 121.41 million in economic price during the entire project life. This damage cost includes the total loss of recreational value of USD 3.57 million for the entire project period. However, this loss of recreational value (ecotourism revenue) is part of the nature of development projects. Nevertheless, the gain from the project is higher than the compromised ecotourism revenue in the Mannar region.

2.Socioeconomic concerns of the Environmental Impact Assessment Report

ii. While we are not familiar with EIA opportunity costing, it raises the question - shouldn't opportunity cost include alternative developmental uses of the land in addition to existing land use values? Or is the implicit assumption that the "next-best" use of land is the existing usage?

"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 centers, 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.

iii. Considering the above, the decision to purely rely on direct unit land values seems inadequately justified. Moreover, the reference point for land values of a single website can be misleading, especially if the number of listings of land in Mannar are low on this website. Moreover, land values on a website that focusses on certain types of properties would not give a good sense of the value, and therefore taking this approach could result in inaccurate estimates of land value. See b.) below.

"Hence, direct unit land values were obtained from <https://www.lankapropertyweb.com/> and estimated total value of affected land extent accordingly. As a result, the range of the projected land value per hectare is minimum USD 25,102 to maximum USD 75,307." (p229)

The referenced web page was dedicated solely to land sales and covered all regions of Sri Lanka. The consultant extracted the contact details of individual land sellers from this website. Some sellers disclosed their prices on a particular website and others did not. The consultant primarily focused on land sellers who had not disclosed their prices on the website. Through direct discussions, the consultant obtained details regarding the extent, location, and prices from these sellers. Owing to the limited number of advertisements on the referenced website, the consultant devoted nearly three weeks, allocating approximately one hour per day, to accumulate a sufficient sample size of land seller details.

The proposed project development necessitates the land acquisition and to facilitate this process, the consultant undertook measures to collect unit prices for 61 land parcels. Upon thorough examination, 7 of these parcels were omitted from consideration due to ownership complexities. However, the Government Valuation Department has valued Rs. 980,392 per ac. of land on the project site. The total land requirement per Wind Turbine is nearly 2.89 ha. and total estimated compensation is Rs. 7 million. With comparison of this government compensation value, commercial value is higher than this and it is around Rs. 6,402,591 per ac. (Rs. 15,814,400 ha.). Therefore, commercial value has been utilized to estimate the total land value. (Please refer Government Valuation Department Estimate -13-12-2022). The consultant's decision to employ the commercial value (converting to economic price), rather than utilizing the government's valuation, provides a more comprehensive and realistic assessment of the land acquisition costs associated with the proposed project development.

iv. The methodology used to obtain this price range is extremely vague. The link provided is purely to the landing page. How did they estimate the total value of the land using this website? What data sources did they use? There is no indication of how the range was calculated. Is there a specific land price calculator on the website for Mannar? There doesn't seem to be one on the website – it may be good to check.

To estimate the land value, the consultant endeavored to contact individual land sellers in Mannar, utilizing the reference details of land sellers provided on the referenced website. While some sellers disclosed their prices on a particular website and others did not. The consultant engaged in discussions with individual land sellers regarding prices, extent, and specific locations. The consultation process extended nearly three weeks, with consultations conducted with 2-4 sellers per day. This procedure covered commercial lands, agricultural lands, bare lands, residential lands, and other land categories. The consultant sought to obtain a comprehensive understanding of land values across diverse land types and locations within the Mannar region through direct engagement with landowners.

Please refer to above response No. iii for all the questions of iv and follow the Government Valuation Department Letter dated 13-12-2022 for the estimated land value.

v. This seems a wide price range – with the maximum being exactly three times the minimum.

The nature of property pricing is influenced by various factors, and it is essential to consider these elements to arrive at a fair and accurate valuation.

“The project cost associated with land acquisition, compensation, and relocation costs are not included in the investor's cost estimate. Consultant appraised the value and allotted

USD 9.64 million based on the current market price and the overall area of the land. Moreover, a lump sum payment of USD 2.41 million was given for resettlement cost. Eventually, the overall cost of the social damage is computed as USD 12.04 million of economic price and included to the benefit cost model.” (p229)

vii. So based on this quote, the consultant values the total land as USD 9.64 million. And if I read the first paragraph in the opportunity section correctly, the total land area is 202.030ha. Which means, the consultant values the land at USD 47,715.685 per ha. The midpoint of the range mentioned is USD 50,204.5. So, the valuation they did is a little under the midpoint of the range they calculated using lankapropertyweb

The midpoint of the range, USD 50,204.5, represents the financial price. This financial price is utilized for financial analysis, which evaluates the project from a commercial or private perspective, considering market prices and monetary flows.

However, for economic analysis, which assesses the project's impact on the overall economy and society, it is necessary to convert the financial price to an economic price. By applying the National Conversion Factor to the financial price, the economic analysis arrives at an economic price that more accurately represents the true resource cost or benefit to society. Therefore, this USD 47,715.68 is correct and used for the economic analysis. All the costs and benefits are given in economic prices. Economic prices are lower than financial prices.

2.2. Cost of environmental damage (p.229-232)

viii. No mention in the section whether any of the quoted estimates of ecosystem services rendered by the existing ecosystem was included as a cost in the cost side.

The environmental damage cost included in the project cost covers the damage to the main environmental services, which are classified into four categories: regulating services, supporting services, cultural services, and provisioning services. These environmental service areas encompass 19 specific sub-services, such as pollination, raw materials, cultural services, climate regulation, biological control, air quality, energy, soil erosion control, medicinal resources, genetic resources, gene pool preservation, food production, mitigation of extreme events, recreation, soil fertility maintenance, water flow regulation, waste treatment, economic value, nursery functions etc.

All these environmental services were valued at 2023 economic prices based on estimates expressed in US dollars per hectare per year. This estimation was applied to the total extent of the affected area. The loss of the total environmental service value was estimated at USD 4,335,968 (USD 4.34 million) per year, and this annual value spans over both the construction and operation phases of the project.

Consequently, the total environmental damage cost is estimated at USD 121.41 million, and this figure is included under the environmental damage cost category on the project cost side.

Does the row item Flora and Fauna – removal of the trees being included in contractors cost mean that the ecosystem services were included as a cost? Doesn't seem like it as the table is looking at mitigation costs.

After valuing all the environmental damage costs as described in the previous section, if there are any additional environmental mitigation costs, they will include the contractor's costs. For instance, if the construction activities necessitate the removal of trees, the mitigation costs will incorporate the contractor's cost associated with implementing measures to recover the environmental damage caused by tree removal.

In such a scenario, the contractor will be responsible for establishing new plantings of the same tree species to compensate for the loss. The costs involved in procuring, transporting, and planting the new trees, as well as any necessary maintenance or monitoring expenses, will be borne by the contractor as part of the environmental mitigation measures.

These additional mitigation costs, including the contractor's cost for replanting and restoring the affected areas, ensure that the environmental impacts are adequately addressed and mitigated through appropriate measures implemented by the contractor.

ix. The range of values is extremely wide – USD 1515 to USD 92203. They have highlighted that the average is USD 22592. Does that mean it was the average that was used as the baseline value of ecosystem services? Given that the report acknowledges that the selected land is “an environmentally sound, and sensitive area”, it can be the case that the ecosystem services provided by the land area in question would be higher than the average.

According to the Research Study Report from 2019, researchers estimated the annual unit value (USD/ha) for ecosystem services in the Mannar district, categorizing the values into three categories: Minimum, Average, and Maximum value per hectare. However, the values provided from the 2019 Research Study Report were not directly converted to the final economic values using a conversion factor. These original values were then converted by consultant to 2023 economic prices for the purpose of the economic analysis.

However, it is important to note that the economic analysis did not use the average of the Minimum and Maximum values. Given that the project locations for the Wind Turbines are scattered, and there may be varying degrees of environmental sensitivity across different areas, the economic analysis aimed to avoid extreme estimations.

To achieve this, the economic analysis utilized the researchers' average estimates directly from the 2019 Research Study. Specifically, the figure of USD 22,592 per hectare was derived directly from the 2019 Research Study, and the consultant updated this 2019 value to reflect 2023 economic prices. This updated value was then used for the economic analysis, ensuring a reasonable and well-grounded estimation without relying on extreme values.

x. The benefit from the reforestation program is calculated to be USD 1.40 million per year and is directly added to the benefit side. Given that the reforestation is occurring in 62 ha, the reforestation benefit per ha is USD 22,580.64 which is very close but slightly below the above quoted average ecosystem service value in Mannar district of USD 22592. Does this imply that this was the baseline value used to calculate the loss of ecosystem services as well?

The values provided from the 2019 Research Study Report were not directly converted to the final economic values using a conversion factor. These original values were then converted by consultant to 2023 economic prices for the purpose of the economic analysis.

Please see the last sentences of the Report Section 2.3.

- “The estimated cost was transformed to economic terms and was accounted for in the benefit-cost analysis”.
- “This benefit stream is included in the benefit side with converted value.” (p 230).

Above Response No. ix is given sufficient details. And refer the Response No. vii.

Does this imply that this was the baseline value used to calculate the loss of ecosystem services as well?

The economic analysis did not use the value of USD 22,580.64 or USD 22,592 as a baseline value to calculate the loss of ecosystem services. Instead, the analysis directly utilized updated 2023 values, which were obtained by converting the original values from the 2019 Research Study Report to reflect the 2023 economic prices.

The process of updating prices to the current economic year is primarily based on price indices. Economic prices are determined by the ratio between a country's export and import values, which can change slightly on an annual basis. This conversion process ensured that the values used in the economic analysis accurately reflected the current economic landscape, without relying on a specific baseline value from a previous year.

xi. The loss of ecosystem services for the remaining 140 ha (202-62) at USD 22580 per ha may not have been included as a cost in the cost side. It is a concern, then, because while the reforestation benefits are mentioned to be added, the ecosystem loss is not.

The damage valuation process does not follow the concept of avoiding the 62 ha. through the reforestation program for the remaining 140 ha (202-62). Instead, the environmental damage valuation is based on the total land extent of 202.03 ha. The rationale behind this approach is that environmental damage will commence from the start of the construction phase, affecting the entire 202.03 ha. area. Therefore, the loss of ecosystem services will impact the full 202.03 ha. during both the construction and operational phases of the project.

Consequently, the loss of ecosystem services was estimated for the entire 202.03 ha. area, taking into account the complete construction and operational phases. This estimation was then updated to reflect the 2023 economic prices. The resulting annual economic value of USD 4.34 million, representing the loss of ecosystem services for the 202.03 ha. area, is included in the cost side under the Environmental Damage Cost category. By considering the total land extent, the economic analysis accurately captures the full extent of ecosystem service loss throughout the project's lifecycle.

The reforestation benefits for the 62 ha. will start to accrue from the year 2027, a few years after the commencement of the construction phase. These benefits, estimated at the 2023 economic prices, have been included in the benefit side of the cost benefit analysis.

This approach recognizes that while environmental damage will impact the entire 202.03 ha. area during the construction and operational phases, the reforestation program will

gradually mitigate the loss of ecosystem services on the 62 ha. of land. However, the benefits of this mitigation measure will not be realized immediately but will begin a few years after the initial construction activities, specifically from the year 2027 onwards.

xii. Given that there is no estimate of land use activity valuation other than the market value of the land in the opportunity cost calculation, inclusion of USD 0.78 on the benefit side as a direct social benefit seems unsubstantiated.

The proposed project is considered the best option when compared to alternative land use scenarios involving more intensive human activities. Although these alternatives may bring significant environmental damages, their potential economic returns to the country are not as substantial as the proposed project. Furthermore, during the operational phase, other alternatives could lead to large-scale human activities and environmental disturbances. The proposed project requires minimal human intervention during operation, making it the most favorable choice considering its economic contribution to the country. Given its status as the optimal option in terms of both minimizing environmental impact and maximizing economic benefits, there is no need to evaluate secondary or less desirable alternatives. The proposed project stands as the clear front runner, and it is not required to evaluate other options.

By allocating USD 0.78 million towards a CSR program, the project developer demonstrates a commitment to positively contributing to society and the environment. This CSR initiative allows the developer to address social, environmental, and ethical concerns that align with their organizational values.

This cost-benefit analysis attempts to offer a comprehensive evaluation of the project by accounting for all applicable costs and benefits. Omitting any significant cost or benefit component would contribute to the analysis being incomplete and potentially misleading. Consequently, this analysis has incorporated USD 0.78 million as a social benefit to reflect the project's positive impact on society. (Other Example: USD 0.029 million has been allocated on the cost side to cover the expenses associated with the implementation of a Storm water Management Plan). By considering and including these relevant figures, the analysis aims to provide a holistic and transparent assessment, enabling well-informed decision-making regarding the project's viability.

xiii. No rationale provided for the estimate and adequacy of USD 0.78 million to compensate for full or partial loss of livelihood activities.

It is important to emphasize that the allocated USD 0.78 million is specifically designated for the CSR program. This USD 0.78 million is not planned to compensate for any full or partial loss of livelihood activities arising from the project's operations. The CSR program's funds are separate and distinct from any potential compensation measures related to the project's impact on livelihoods.

The CSR program is designed with the aim of providing philanthropic support to society. Its primary objective is to contribute to the betterment of communities and various social causes. The allocation of USD 0.78 million towards this program reflects the company's commitment to being a responsible corporate citizen.

The amount of USD 9.64 million has been allocated as the cost for land acquisition, while USD 2.41 million has been allocated as the resettlement compensation cost for all settlers. The total allocation for these purposes is USD 12.04 million in economic price, and this amount has been incorporated into the cost-benefit model.

It is important to note that adherence to the guidelines outlined in the Sri Lanka's Involuntary Resettlement Policy frameworks will ultimately determine the final approval and disbursement of the resettlement and livelihood compensations to the affected individuals.

Rashmi Bopitiya

Significance of cost considerations in the decision-making process, questions whether due weight was given to associated financial concerns.

The Mannar Phase II Wind Power Project has an approximate financial investment of USD 420 million. However, the purpose of conducting an economic analysis is to assess whether the project is economically viable for the country, rather than just financially viable for the investors.

Economic analysis uses economic prices, also known as "shadow prices," to evaluate the true economic costs and benefits of the project from the perspective of the entire economy. It focuses on the economic values rather than just the financial costs and revenues. In the economic analysis for this project, the following economic costs have been calculated:

- Total Investment Cost (Construction): USD 382.85 million
- Annual Operational Cost: USD 19.45 million
- Environmental Damage Cost: USD 121.41 million
- Social Damage Cost: USD 12.04 million
- Other Damage and Associated Costs: USD 17.44 million

Total Investment Cost (Construction): The Mannar Phase II Wind Power Project requires an approximate financial investment of USD 420 million, which includes the costs for (1). construction and (2). project startup. The total construction cost encompasses Engineering, Procurement, and Construction Costs (EPCC), a project development fee, other financial costs, and physical contingencies. The total economic value of the project construction cost is estimated to be USD 382.85 million.

Annual Operational Cost: The financial costs required for working capital during the operational startup amount to USD 17 million. To estimate the annual operation and maintenance costs, two sources were consulted: the "Land-Based Wind Market Report: 2022 Edition, August 2022" published by the U.S. Department of Energy, and an analysis of the unit operation and maintenance costs per kilowatt-hour (kWh) in the wind markets of Europe, India, and the United States. After the final calculation, the annual operation and maintenance cost for the Mannar Phase II Wind Power project was estimated to be USD 0.032 million. Respective annual O&M cost was derived based on the real resource requirements for the project. Consequently, the total estimated operational expenditure and its economic cost is USD 19.45 million.

Environmental Damage Cost: While many projects produce outputs that are traded in markets, they also generate externalities that impact society, but these externalities are not internalized and not reflected in the market prices of the outputs and inputs. The Mannar

Phase II Wind Power Project produces electricity as an output, but it also has significant environmental damages. Therefore, this Environmental Impact Assessment (EIA) study recommends mitigation measures to internalize and account for such damages.

Consequently, this extended cost-benefit analysis has taken into consideration 19 environmental service areas under four broad categories of ecosystem services. The main environmental services are classified into four categories: regulating services, supporting services, cultural services, and provisioning 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 prices and computed for the entire project land extent. The total allocated economic value for these environmental services is USD 121.41 million.

Social Damage Cost: The total allocated compensation cost for resettlement is USD 2.41 million (economic value), and this amount is entitled to all individuals who will be resettled. However, the final approval of this compensation will depend on the guidelines set forth in the Involuntary Resettlement Policy framework of Sri Lanka. The USD 12.04 million is reflected under the Social Damage Cost, and it is divided into two portions.

An amount of USD 9.64 million has been allocated as the cost for land acquisition, while USD 2.41 million has been allocated as the resettlement compensation cost for all settlers. The total allocation for these purposes is USD 12.04 million, and this amount has been incorporated into the cost-benefit model. It is important to note that adherence to the guidelines outlined in the Sri Lanka's Involuntary Resettlement Policy framework will ultimately determine the final approval and disbursement of the resettlement and livelihood compensations to the affected individuals.

Other Damage Cost: Please note that Other Damage and Associated Costs of USD 17.44 million include infrastructure damage costs, costs for mitigating vibration impacts, reforestation costs, workforce insurance costs, costs for developing and implementing a storm water management plan, environmental monitoring costs throughout all project stages, and an allocated portion for any unidentified or contingency project costs.

By incorporating the given cost components in the above section, this cost-benefit analysis aims to provide a comprehensive assessment of the Mannar Phase II Wind Power Project. This analysis using economic prices, rather than just financial prices, is crucial for evaluating the true economic viability and determining whether the project should proceed from the perspective of the overall national economy. Considering the broader economic costs and benefits, including environmental and social impacts, allows for a more holistic evaluation of the project's desirability for the country.

Madura De Silva (President, Wildlife Conservation Society, Galle)

Migratory birds can be affected, and actual economic benefit of the project is questionable.

To mitigate the risk of bird strikes on wind turbines as well as impacts to migratory birds, it is proposed to establish a radar system and implement other complementary measures. An amount of USD 253,968 (Rs. 80 million) has been allocated for this purpose and included in the cost-benefit model. *(Please refer to the answers provided by the Environmental Specialists for more details.)*

Incremental Power Supply Benefits: Sri Lanka has witnessed a substantial increase in electricity demand over the past fifteen years, with an average growth rate of approximately 4.4% per annum for overall energy consumption. To sustain economic growth and meet the increasing energy requirements, Sri Lanka must explore and harness untapped energy sources, particularly renewable sources. By diversifying its energy mix and embracing renewable sources like wind power, Sri Lanka can meet its growing energy demands.

The project's total incremental power supply benefits are projected to amount to a substantial USD 1.339 billion in economic terms. Annual incremental power supply benefit is estimated to be USD 51.51 million. This figure represents the aggregate positive impact on the economy resulting from the enhanced energy supply facilitated by the Mannar Phase II initiative.

Environmental Benefits: The incremental environmental benefit has been quantified annually based on the avoided cost principle. This principle considers the costs that would have been incurred by generating electricity from conventional sources that contribute to greenhouse gas emissions (USD cents 4.6 per Kwh). The calculation is based on the most recent five-year externality cost data (2019-2023) from four thermal power plants in Sri Lanka, namely Yugadhanvi, Lakvijaya, Sapugaskanda, and Kelanitissa, as reported by the Public Utility Commission of Sri Lanka. Therefore, annual avoided environmental benefit is estimated at USD 45.03 million and total non-marketed benefit is USD 1.171 billion. (Please refer "Assessment of Sri Lanka Power Sector. 100% Electricity Generation Through Renewable Energy by 2050. Asian Development Bank 2017).

Social Benefits: The Public Utility Commission of Sri Lanka (PUCSL) conducted comprehensive research to quantify and value the social externalities associated with electricity generation from conventional sources. In this endeavor, the PUCSL employed two primary approaches:

Estimation of damage costs through household surveys and key informant interviews conducted among nearby communities. These surveys focused on assessing the impacts on agriculture, health, household mitigation measures, and fisheries. Costs were estimated using the benefit transfer approach for aspects not covered by the household survey.

This benefit cost analysis uses data from 2011 to 2017 that was published together with PUCSL research findings to determine the damage cost associated with fossil fuel-based electricity generation in 2023. Hence, the predicted damage cost in terms of economic price in 2023 is USD cents 2.45 per kWh (Ref: Study Report on Estimation of External Cost of Thermal Power Generation For Public Utilities Commission of Sri Lanka -April 2020).

Therefore, Mannar Phase II Wind Power Project is expected to deliver a total estimated social benefit of USD 617.25 million, coupled with an annual social benefit of USD 23.74 million, by mitigating the adverse impacts of conventional electricity generation on agriculture, health, household mitigation measures, and fisheries.

As a summary of total benefits:

1. Incremental Power Supply Benefit = USD 1.339 billion (Annually USD 51.51 million) - Marketed
2. Environmental Benefits = USD 1.171 billion (Annually USD 45.03) - Non-Marketed
3. Social Benefits = USD 617 million (Annually USD 43.74) - Non-Marketed

In addition to the above calculations, consultants have conducted sensitivity analyses to recheck the project's economic feasibility under various scenarios. A scenario with a 10% decline in total benefits was tested, and the model reported feasible results with an EIRR of 22% and an ENPV of USD 331 million. Furthermore, an extreme sensitivity scenario with a 25% decline in all benefits, including environmental, social, and incremental power supply benefits, was analyzed. Even in this extreme case, the model yielded positive results, with an EIRR of 18.30% and an ENPV of USD 203 million. The study tested and reported four standard sensitivity scenarios to assess the robustness of the project's economic viability under different assumptions and potential risks.

10th May 2024
SSEAA/KK11/01



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Sri Lanka Sustainable Energy Authority



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Prof. Sampath S. Senarathne
Department of Zoology & Environmental Sciences
Faculty of Science
University of Colombo

Received
10/05/2024

Dear Professor,

Reports on Birds Movement Habitat Information - Mannar Island

We have previously corresponded regarding the reports concerning the Birds Movement study referred to you across various platforms. Despite diligent efforts, we have been unable to locate a reliable database through which we can access the cited information. Additionally, it has been indicated that obtaining permission from the Secretary to the Ministry of Education is necessary to obtain such information. Accordingly, we have made a formal request through the Secretary to the Ministry of Power & Energy.

Regrettably, we were subsequently informed by you that the report cannot be shared, but the implications coming out from them can only be shared. We emphasize that the dissemination of this information is crucial for the implementation of wind energy projects in a sustainable manner, where all the professional work that has been cited will be duly considered to the fullest possible extent.

As esteemed academics committed to sustainability and environmental protection, we appeal to your sense of responsibility in honoring the request forwarded by the Secretary to the Ministry of Education and providing us with access to the reports mentioned, which have garnered significant public interest.

Your cooperation and responsible conduct in this matter would be greatly appreciated.

Eng. J.M.Athula

Director General
Sri Lanka Sustainable Energy Authority



- Co:
- ✓ 1. Secretary, Ministry of Education - F.Y.I. please
 - ✓ 2. Secretary, Ministry of Power & Energy - F.Y.I. please
 3. Vice Chancellor, University of Colombo - F.Y.I. & N.A. please
 4. Dean, Faculty of Science, University of Colombo - F.Y.I. & N.A. please
 5. Head, Department of Zoology & Environmental Sciences - F.Y.I. & N.A. please

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Sri Lanka Sustainable Energy Authority
No. 72, Arachchi Gallewadda Mawatha, Colombo 07, Sri Lanka

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ෆැක්ස්: 011-26111111
වෙබ්: www.sseaa.lk
ඊමේල්: info@sseaa.lk

14th March 2024

SLSEA/R&D/04



இலங்கை நிலவழித்து சக்தி அதிகாரசபை
Sri Lanka Sustainable Energy Authority



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A Statutory Authority of Ministry of Power and Energy

Prof. Devaka Weerakoon

Head – Department of Zoology & Environmental Sciences

Faculty of Science

University of Colombo

Prof. Sampath S. Seneviratne

Department of Zoology & Environmental Sciences

Faculty of Science

University of Colombo

Dear Sir,

Reports on Bird Movement/Habitat Information – Mannar Island

This is further to our letter dated 13th March 2024 on the above subject.

In connection to the information and reports that have been requested through the above letter, it is observed that reference has specifically been made to a project titled 'Sri Lanka Waterbird Tracking Project' conducted by the University of Colombo, by Prof. Seneviratne in his response made on the public comments process for EIA report mentioned therein.

So, we would be extremely thankful for your support in sharing particularly the report of the above project. Any other supportive information, publications and reports we still be further supportive for our consideration as per detailed given in our letter in reference, and would be much delighted to have such as well.

Thanking you for your earliest attention

Eng. Ranjith Sepala

Chairman

Sri Lanka Sustainable Energy Authority

Cc: Vice Chancellor, University of Colombo, Dean, Faculty of Science, University of Colombo

Ranjith
14/3/24

[Signature]
2024/03/14

අංක 72, අනන්ද කුමාරස්වාමි මාවත, කොළඹ 07, ශ්‍රී ලංකාව.
இல. 72, ஆனந்தகுமார சுலாமி மாவத்தை, கொழும்பு 07, இலங்கை.
No. 72, Ananda Coomaraswamy Mawatha, Colombo 07, Sri Lanka.

தலைப்பு அலுவலகம் Office	தலைப்பு தொலைபேசி Facsimile	தலைப்பு மின்னஞ்சல் E-mail	www.slea.gov.lk
+94(0)11 257 5030	+94(0)11 257 5068	info@energy.gov.lk	www.energy.gov.lk



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MINISTRY OF POWER AND ENERGY

437, ගාලු මාර්ග, කොළඹ 03

437, காலி வீதி, கொழும்பு 03

437, Galle Road, Colombo 03.

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எனது இல
My No

MOPE/SEC/COM/2024

ඔබේ අංකය
உமது இல
Your No

දිනය
திகதி
Date

05-04.2024

Secretary
Ministry of Education

Dear Madam,

Reports on Birds Movement / Habitat Information – Mannar Island

I am forwarding herewith the letter dated 05.04.2024 of Chairman, Sri Lanka Sustainable Energy Authority on the above matter which is self explanatory.

02. I will be gratefully, if you take appropriate action as requested by Chairman, Sri Lanka Sustainable Energy Authority.

Thank You

Yours Sincerely,


Dr. Sulakshana Jayawardena
Secretary

Received

MP

08/04/2024

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எனது அழைப்பு இல
My Reference No

Tel: (+94)-11-2574883
Fax: (+94)-11-2574741

දුරකථන අංකය
தொலைபேசி இல
Telephone No

Tel: (+94)-11-2574918
Fax: (+94)-11-2574880

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அதிகாரம் இல
Ministry No

Tel: (+94)-11-2574922
Fax: (+94)-11-2574880
Tel: (+94)-11-2574733

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இணையத்தளம்
Website

www.powermin.gov.lk



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இலங்கை நீளவெறுதகு சக்தி அதிகாரசபை
Sri Lanka Sustainable Energy Authority



5th April 2024

SLSEA/R&D/04

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A Statutory Authority of Ministry of Power and Energy

Secretary

Ministry of Education

Through, Dr. Sulakshana Jayawardane

Secretary, Ministry of Power & Energy

Dear Sir,

Reports on Birds Movement / Habitat Information – Mannar Island

This is further to our letter to the Vice Chancellor, University of Colombo, on the subject, dated 13th March 2024 (attached hereto).

As we are proceeding with the project development activities of Mannar Phase II 250 MW wind power project, the draft EIA report for the project was released for public comments. In that process, Prof. Samath S. Senevirathne, Department of Zoology & Environmental Science, University of Colombo, who is an avifauna expert presented his expert views on the subject, referring to studies conducted by the University Colombo. As our objective is to implement projects in the most sustainable manner, we observed that taking into detailed consideration of these facts will be very useful for the project. On that basis, we made request for the access to the particular reports, through the letter referred to above. Once we followed up for the response from the University, we were informed by the Dean, Faculty of Science, that the request needs to come through Secretary, Ministry of Education.

In that background, we would kindly request your cooperation and guidance in making arrangements to have access for the particular reports.

Thanking you

Yours faithfully

Eng. Ranjith Sepala
Chairman

Sri Lanka Sustainable Energy Authority

අංක 72, ආනන්ද කුමාරස්වමි මාවත, කොළඹ 07, ශ්‍රී ලංකාව.
இல. 72, ஆனந்தகுமார கமாத். கொழும்பு 07, இலங்கை.
No. 72, Ananda Coomaraswamy Mawatha, Colombo 07, Sri Lanka.

කාර්යාල அலுவலகம் Office +94(0)11 257 5030	தொலைநகல் தொலைநகல் Facsimile +94(0)11 257 5088	විද්‍යුත් තැපෑල மின்தொலைபேசி E-mail info@slsea.gov.lk	වෙබ් අඩවිය இணையம் Web Site www.slsea.gov.lk
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Sri Lanka Sustainable Energy Authority



13th March 2024
SLSEA/R&D/04

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A Statutory Authority of Ministry of Power and Energy

Prof. H.D. Karunaratne
Vice Chancellor
University of Colombo

Dear Professor,

Reports on Bird Movement/Habitat Information – Mannar Island

Sri Lanka Sustainable Energy Authority (SLSEA) is carrying out renewable energy project development to meet the government policy directive of realizing 70% electricity generation from renewable energy sources by 2030. In this respect, solar power and wind power are the major renewable energy sources identified to meet the national renewable energy targets. While solar power is widespread in the country, wind power concentration is in the Northern and North-western belts, and Mannar Island is one of the best wind sites in the region. With the successful operation of the first 100 MW wind power plant in Mannar, arrangements are being made for the Mannar Phase II 250 MW wind power project. The Environmental Impact Assessment (EIA) report for this project was released for public comments recently.

In the above public comment process, significance of bird movements/habitats in the Mannar Island have come to the surface. As SLSEA is very keen on implementing renewable energy development projects in the fullest harmony with the socio-environmental aspects, where all such concerns are well addressed through appropriate mitigation measures, we have focused to take the particular concerns into consideration. As we need to roll out such interventions through a proper scientific approach, we are interested in accessing the scientific reports prepared by the experts of the subject.

Prof. Sampath S. Senewirathne of your University, an avifauna expert, has revealed his expert views on the subject referring to studies conducted by the University, which has gained a high media hype as well, where explanations are expected from us by media institutions and the public. So, in this situation, we observe that accessing information referred to by him, will extensively support us in this regard. Further, the Bird Study for the project was carried out by the University of Colombo (UOC), and on that grounds any clarification on the subject will have to be from UOC. In the circumstances, we shall be most grateful if you could make arrangements to access the reports, publications, etc. pointed out by Prof. Senewirathne, as well as to send us clarification for the concerns, in the position of University of Colombo as the consultancy institution for the Bird Study early please.

Eng. Ranjith Sepala
Chairman
Sri Lanka Sustainable Energy Authority

Co: Dean, Faculty of Science, Dean, Faculty of Technology, Dean, Faculty of Technology, University of Colombo
Head, Department of Zoology and Environmental Sciences,
Prof. Sampath S. Senewirathne, Dept. of Zoology & Environmental Sciences University of Colombo

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இல. 72, அனந்தசுமார் சுவாமி மாவத்தை, கொழும்பு 07, இலங்கை.
No. 72, Ananda Coomaraswamy Mawatha, Colombo 07, Sri Lanka.

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Department of Zoology University of Colombo

20 May 2024

Eng. Ranjith Sepala
Chairman
Sri Lanka Sustainable Energy Authority

Dear Sir

Re: Reports on Birds Movement/Habitat Information – Mannar Island



Thank you very much for your letters dated 10.05.2024 and 13.03.2024 inquiring more details about our research on the Movement Ecology of Migratory Seabirds and Shorebirds in Mannar. It is commendable that the Sustainable Energy Authority shows a keen interest in this matter and adhering to the Sustainable Development Goals (SDG) of the United Nations where Sri Lanka as a responsible and vibrant nation should pay a great attention. As a research and education entity of the University of Colombo, the Field Ornithology Group of Sri Lanka (FOGSL) is in the forefront of avifaunal research in Asia. FOGSL is also the Sri Lankan partner of the BirdLife International, the largest not-for-profit global organization dedicated to the research and conservation of birds. The details of the study that you were requesting is part of a cutting-edge research that the University of Colombo is promoting to adhere to the university's vision in excellence in science and technology, and that of FOGSL's vision in promoting conservation and sustainable use of birds.

As the Sustainable Energy Authority is aware, on 20th July 2021, on invitation by your parent's agency, I gave a detailed description of the project that involved marked animals being tracked across the Central Asian Flyway spanning 32 countries and their visits to Mannar. In the description I illustrated the heavy utilization of a large number of globally important, and even globally critically endangered migratory waterbirds to Mannar from other regions of the globe. With data, I clearly showed, and that the Chairman and the technical staff of the Sustainable Energy Authority agreed with me, how wind energy projects can be unsustainable in the Mannar Island and how such projects could jeopardize Mannar Island's tourism, social, and environmental viability. Further, in 2021, I showed that any future expansion of wind power projects in Mannar Island could jeopardize the sustainability and long-term viability of the already existing Thambapavani Wind Power Project of the Ceylon Electricity Board of the government of Sri Lanka.

Since I have already given the information to the Sustainable Energy Authority by invitation in 2021, before the commencement of the FIA in question, I assure you already have the information needed to evaluate the proposed 250 MW Mannar Wind Power Project (Phase II).

Herewith I've attached already published abstracts those are in the public domain for your reference. I hope that this information will give you the details needed for you to review the damaging nature of this project. Further information on the movement patterns of satellite-tagged, globally important birds in Mannar is available in the public domain at the Department of Wildlife Conservation, Bird Observatory of Mannar Island, and the Korankalun Bird Observatory at Tarapuram (Mannar).

Since the Sustainable Energy Authority is not the regulatory body but the proponent for Adam Green Sri Lanka Limited as stated in the final report of the EIA (Page XVIII), I am not in a position to give any further details to you as part of your request.

Still, at the same time, I am happy to inform you that I have already given a detailed description based on our data and analysis on the unsustainability and the damaging nature of this proposed 250MW wind power project to the environment of Mannar Island, especially to the endangered and globally significant migratory birds, to Central Environmental Authority of Sri Lanka as part of the public hearing process that was concluded in 06th March 2024. Please feel free to refer to that report, which contains the needed information for your evaluation.

Thank you very much for your interest and commitment towards sustainability.

Yours Faithfully,


Professor Sampath S. Senewiratne
Department of Zoology and Environmental Sciences
Faculty of Science,
University of Colombo
Colombo 10



Copy.

1. Eng. J.M. Athala, Director General, Sri Lanka Sustainable Energy Authority
2. Senior Professor H. D. Karunaratne, Vice Chancellor, University of Colombo
3. Senior Professor Upul Senadara, Dean, Faculty of Science, University of Colombo



WILDLANKA Symposium – 2020
Information for Conservation

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ABSTRACTS

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SPATIO-TEMPORAL DYNAMICS OF THE LESSER KNOWN CRAB PLOVER (*Dromas ardeola*) IN MANNAR ISLAND

BIHARANI GAYOMINI PANABUDDA^{1,2}, SAMPA H. S. SENEVIRATNE^{1,2} AND SARATH KOTAGAMA

¹ Field Ornithology Group of Sri Lanka, Department of Zoology and Environmental Science, University of Colombo, Colombo 03, Sri Lanka

² Avian Evolution Node, Department of Zoology and Environment Sciences, University of Colombo, Colombo 03, Sri Lanka

³ sam@sci.cmb.ac.lk

ABSTRACT

The nationally critically endangered (CR) Crab Plover (*Dromas ardeola*) of family Dromadidae is the only member of its family. It is known to breed along the coasts of Arabian Peninsula and winter along few locations of coastal Africa and the Indian subcontinent. Though it is documented as a rare breeding resident in Sri Lanka, no record of breeding has ever been found in the country. Here we explore the spatio-temporal variation of this species over a span of two years, from May 2018 to August 2020 in one of its strongholds in Northwestern Sri Lanka, in Urumalei and the 1st island of Rama's Bridge, Talaimannar.

During May and July, outside the migratory season, their numbers varied from 2-13 (average 06) individuals. By August, a notable increase in numbers could be observed; 14-40 individuals (average 18), out of which 60% were juveniles and sub-adults, mostly found as family groups of 3-4 members. During the migratory season (from August to April) the numbers fluctuated from 1-40 individuals/day (average 08) which could be explained by local movements within Mannar Island and probably within the greater Palk Bay Avifaunal Zone as a response to the variation of tide and productivity. Under the National Bird Ringing Program, 05 Crab Plovers were tagged, of which 04 were GPS-GSM tagged in 2020. These marked individuals have already shown the local movements between Urumalei and Rama's Bridge in Talaimannar, Vankalei and Erukkalanpiddy area in Mannar. We observed congregation of Crab Plovers near IIIrd, IVth and Vth islands of the Rama's Bridge.

Breeding bird surveys conducted in the islands of Rama's Bridge did not yield any breeding records of the species. However, the tagged birds may lead us to find yet unknown breeding locations and shed light to its migratory behavior, which remains unclear at present.

KEYWORDS: Central Asian Flyway, Crab Plover, Mannar Island, Palk Bay



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ABSTRACTS



General Sir John Kotelawala Defence University

Ratmalana, Sri Lanka