

Environmental impact assessment report on malaysian airport project construction ...

[Environment](#), [Air](#)



The first system to assess the environmental impact was developed by US in 1970, Environmental Impact Assessment (EIA) has been used widely over the world and it has become the most crucial tools in implemented any projects or planning process. Until now, almost 55 countries have starting to use formal EIA system measurement, not only that about 100 countries have implement the EIA measures system (Haklay et al., 1998). Compared to other countries in this world, Malaysia has been the top countries to adapt with EIA. As a proof Malaysia has develop the Environmental Quality Act 1974 in Third Malaysia Plan, Department of Environment and an Environmental Quality Council has been setup to smooth the planning process in the national level. In Environment Quality Act 1984, section 34A extended the environment impact assessment legislation; however in 1986 the act amends that require assessment for all private and public projects which may be have high impact on the environment. Besides that, in 1998 EIA will be implemented as whole and made it mandatory to all the project to be implemented (Barroe, 1997).

Environmental assessment report intended to assess the environmental impacts of airport project proposed by Janji Manis Corporation (JMC) to replace the new airport in Subang to Sepang, as what been stated in the JMC Development Plan to build an airport in the capital city of Malaysia in accordance to fulfil the needs of the globalization and demand of the market. Besides that, the current airport required to accommodate market demand for the airport with increasing numbers of consumers, thus new airport will be able to offers the demand of the users. However, according to the Department of Environment of Malaysia, any project to be implemented

must get the approval from the department to ensure that the project would not be jeopardized the environment in airport project area. Besides that, the project also must include all formalities needed such as giving briefing session to the residence of the place involved, local councils, state authority, agencies and various environmental related people. For example giving explanation to the society in Sepang where the airport project to be implemented. Besides that, there are several procedures need to be completed before the decision to allow the project to be implement.

Among the procedures involve are, preliminary assessment, detailed assessment and review assessment report. Where preliminary assessment main objectives are to examine the project proposal and select the best project options which are available, secondly, identify and integrate into the project preparation to appropriate abatement and mitigating appropriate measures; and to identify important residual on the environmental impacts. Besides that, in second procedure in preparing detailed assessment done by describes the significant enduring environmental impacts that were predicted from the final project plan prepared; to specify the mitigating and the abatement measures needed in the final project preparation; and identify the costs on environment and the benefits can be obtain from the airport project to the local community involved in order for critically review the detailed assessment reports the steps needed are by evaluating the development and costs of the environmental and benefits of the final project plan to the society; to formulate and recommending and guidelines to the

project that been approved to the relevant authority so that the project can be implemented.

In the other hand, EIA requires detail analysis because of probable effects to the environment from the airport project. EIAs require systematic analysis of the potential impacts, secondly the projects to be carried out with proposal of mitigation measures, thirdly, to get the detail economics valuation of the impact and suggesting the best alternative to be choose, and finally be able to prepare the environmental management plan.

The Process in Preparing EIA

Every EIA needs the Terms of Reference (TOR) which can be develop via scoping. The output expected through scoping are:

Identify the probability impact on environment or other concerns on environment to be considered and also need to further investigate from EIA report.

Identify components of the environment that need comprehensive study.

Determine the correct method and approach that appropriate in order to carry out EIA study.

Identify the specific interest that might be occur in consultation before the EIA been carry out.

Identify the need appropriately in to EIA context especially before the project can be implemented.

The next step of EIA analysis must follow the key important activities of the airport project:

Describing Environmental Condition of the New Airport Project Area

It is crucial to run the EIA study by examining the baseline information about the area biophysical, social and economic, and this will be the reference to the new airport project. Therefore, according to the proposal of new airport in Sepang provide the appropriate information on the geology of the place which mostly the land that plant palm. Furthermore, the land is suitable because its good structure of the soil. Thus such area offers good potential to build the new airport.

The location between the new airport area and Subang (current) location is 55.6 kilometers to south of Malaysia, and is bounded by Nilai Highway, Lekas Highway and Federal Highway that connecting short distance and smooth way to new airport location. Furthermore, the new airport location has some native foliage, described as oil palm plantation, but most of the area is predominantly vacant. Previously the area was occupying Felda Corporation, however the land was beneficial for commercial and development thus it has been given the authority to JMC to build the new airport in that particular location. Besides that, until today there were no threatened of ecological was reported in that area by Department of Environment of Malaysia.

However, in order to sustain the environment the new airport project will consider the preservation of environment, which predominantly by

sustaining the rest of the land by palm plantation and the new airport will be build based on green technology and will also sustaining three main elements of sustainable, that is environment, economics and social. Besides that, the located area also accommodating the crop industry and the project will distract the habitat however it is believed that the habitat can be transferred to the nearest location near Tiroi and the area is believed having significant ability to place the habitat that need to be sustain.

Furthermore, the new airport location is located far away from housing area and also satellite area and this will ensure that the location will not distract the residence or society in Sepang. Additionally, this project will be able to offer the local society of the economic development by offering jobs and transportation development with good system and condition of road and many aspects that might effects the local lifestyle or living opportunities.

Environmental Impacts Associated with the New Airport Project

Traffic

The location of new airport is bounded by Federal Highway and surrounded by Jalan Utara and Jalan Semangat Bypass. The location can be access via Federal Highway using Nilai Exit, and all kind of vehicles, including semitrailers, commercial vehicles and flat trucks will bring the material of construction or the oil palm industries transportation. As an additional the nearest palm plantation company has some restriction to be obeyed, due to limited usage of Jalan Utara and Semangat including the bridge. Currently

about 15, 000 are vehicles using the road way along Jalan Utara and Jalan Semangat.

Besides that, according to Average weekday traffic flow 2008/09 has found that the average total of traffic throughout the peak hour (7: 15 am to 8: 15am) was about 3, 000 vehicles southbound, and 550 vehicles westbound. Furthermore, the common traffic surge for the noon peak hours (5: 10 pm to 6: 15pm) consists of about 590 vehicles southbound, and 790 vehicles westbound. Furthermore, JMC has indomitable that the new airport will raise the traffic about 2. 2% (340 vehicles) of present daily of the traffic on weekdays. Jalan Utara is a three lane wideway. As a results JMC has organize discussions with the local authority for Malaysia Planning and Infrastructure (MPI) on the possibility of the street being upgraded to a four lane dual roadway in the medium to long term.

The main challenge for JMC is when the public raised about the increased the problems of traffic in the area. Particularly they are concern about the threat on the safety of their children and neighbouring community, and how do Jalan Utara to absorb the extra vehicles come to their area roadway. In other hand, JMC has planned to use the airport site from Jalan Utara. Both Jalan Utara and Jalan Semangat can only maintain the semi-trucks, and the permits are obtained from the State Government of Negeri Embilan to permit Double-Big trucks on those particular roads. Jalan Utara also has a big bridge (Jalan Utarra Bridge) in excess of a gas produces which will need to be upgraded if Double-Big trucks are to access over the bridge. JMC has dedicated to face the cost involve to upgrade the bridge if required to do so.

JMC has suggested three diverse traffic circumstances in the MDP. Situation 1 is to embark on with no development on the roads, and apply the semi-trailers for materials transportation. Situation 2 is to obtain the necessary permits, and improve the bridge on Jalan Utara, to enable Double-Big trucks to enter the roads. Situation 3 is by obtaining permits for Double-Big trucks to enter Jalan Utara, however they need to take a route that not using the bridge. JMC of course prefers Situation 1 at this point. JMC also has taken for action the public worries in the MDP as follows:

The major concern for the children is the western section of Jalan Utara. JMC plans to initiate truck drivers not to enter that part of road;

All road installation will be obeyed to the endorsement with the relevant right, and the number of trips, transfer of services with any other issue will be integrated; and

Raw materials of the projects will only be elated between 6: 10am and 6: 10pm. Around 10 truck (semi-trailers) travels are likely to be used during peak times.

Services

The new airport project will require JMC to upgrades the existing services that available, and also to supply the new services that necessary. The project area is located adjacent to an existing gas processing of Petronas, and also has access to the electricity area. JMC promises to upgrade the electricity and enhance the area power supply, and also to get access to the

gas production so that they will meet the requirements of a airport construction.

Area Sewage Treatment

The project site is not getting serviced by sewer mains to the local, and JMC has plans to install a nutrient replace on-site treatment unit needed.

Consultant for JMC has taken for action that:

- The system firstly must be able to hold the quantity of waste generated, and may need local council authority and Health Department of Malaysia approval;
- A sewage disposal area would be needed to be recognized and would also need to be at least 36m from the nearest bay
- Sewage disposal by using irrigation would not be appropriate for location where the water table is located or too close to the ground surface system;
- Blended soils may be needed under the irrigated location in environmentally sensitive location and to prevent nutrient discharge to the groundwater system.

Disproportionate release of nutrients to the site could also result in blemish of waterways. JMC has not point up that issue in the MDP.

Water

The location needed a ring central part to carry town water to the place for fire-fighting. JMC explain that mostly the water used in construction will be sourced from surplus and irk water, and also depending on the available quality of the bore water system. Besides that, storm water drainage planned to be modified in order to collect run-off from the cemented and roof location and it again will then be transferred to a series of drainage place available. JMC suggest re-using most of this water for construction and dust control. Additionally, some of that used water may be spoiled with unwanted silt and clay, so JMC suggest lining the first setup water pond to prevent leakage. JMC also suggest working on an interceptor pit in to thee handle removal of any oil residues system, in the event if accidental spillage that might happen.

Lighting

In other hand the public concern was also point up about the lighting on the location impacting to the flora and fauna in the involve area, and residential areas nearby. JMC suggests focusing the lights on the traffic place of the work area nearby. JMC also plans to position additional outside lighting so that will ensure it will not obstruct with the amenity of neighbours place. All external lighting planned will be placed in unity with the Malaysia Standard (1999).

Dust

Airport construction activities may cause dust during ground trouble in involved area. However, this is not expected to be happen or a concern

during the working phase of the construction, as exterior areas will be impermeable, and restricted dust is expected to be generated by strict control. Thus, public worries raised the issue of dust from the project. JMC has promised to minimize the dust by put in work the standard dust control measurement such as wind fencing, hydro-mulching and spraying water.

Noise

Another aspects need to be consider by JMC is noise levels that will increases during the construction of the new airport at the expected area. Besides that, heavy earthmoving tools, trucking of spoil and dewatering, will have the possible to generate high volume of noise during the new airport construction. Increased of noise will also occur by the trucks and other equipment related such as forklifts during operation of the project. However, public concerns of these issues have been raised especially about the increased noise volume from equipment and trucks used. JMC plan that all equipment will be maintained in good working condition and with the standard noise mufflers will be used to ensure excessive noise will not be generated. Furthermore, airport construction activities will be only occur during the working day, and all the trucks will only be enter and leave the involved area between 6. 10am and 6. 10pm during operations time. JMC has also promised to conduct the ambient noise monitoring system for every 3 months time during working phase, and the annually monitoring after normal operations originated.

Flora and Fauna

Flora

The location is largely cleared of shrubbery. However, JMC suggest clearing the residual remainder plant life on the 28ha area, with remainder shrubbery being preserved on the planned perimeter and non development place. The parts of the area will be widely re-vegetated with suitable local species to give a visual and resonance barrier of the project. JMC also states that the project area has been acknowledged by MDP as a “ no priority” place and completely under the MDP Master Plan 2008 “ Priority43 and ‘ No Priority’ place will not issue to further assessment needed”. The project area, Sepang Oil Palm plantation and the adjacent vegetation has also been included into a Farm Forever area due its flora and fauna diversity importance. Farm Forever is a Malaysia Government idea and “ identifies regionally important farmland to be reserved and confined forever”. However, the public concerns have been again point out about the effects of fluoride emissions on the shrubbery and the probability of loss of the Farm Forever area. The effects of fluoride emissions are taken to action in the part Emissions. JMC has also stated that Farm Forever is a Negeri Sembilan State based development instrument that is not steady with the Malaysia Master Planning process

Fauna

There a number of fauna surveys have been done by DOE of Malaysia on Sepang land. DOE has formally recorded 159 species of vertebrates living organisms, but with only a fairly small amount occurring in the project area. Besides that, a number of scheduled endangered species may be occurring on the area. JMC also states that prior to any clearing is work on, JMC will responsible to conduct a review to position any related species, and remove

them from the area in concurrence with WWF principle. According to EPBC Act 1999 JMC would need to attain a part 15 permit to relocate the listed species in any Commonwealth land countries.

Air Emissions

Airport project expected to emit various sparkling pollutants into the location of the atmosphere. Those pollutants stated include oxides of Nitrogen (NO_x), volatile organic compounds (VOC), oxides of Carbon (CO_x) oxides of Sulphur (SO_x), Hydrogen Fluoride (HF), and Hydrochloric Acid (HCl). Normally emissions are created primarily by the “ placing” phase of airport project working.

Health Impacts

‘ Acidic gases’ from new airport project expecting to correlate with varies aspect of the health impacts to the society. The health impacts effects include the problem of itchy eyes and particularly affecting asthmatics, respiratory sensitivity. Furthermore, gaseous emissions also could be mostly harmful to the community with already facing respiratory problems before. Besides that, the main focus for health problems are about the existing development project in the Sepang area have been point out in the previous year. The Sepang Primary School were closed in 1998, after the teachers and students of that school complained of eye, throat, nose and nose bleeds, burnt lips and skin irritations problems. As a results the Ministry of Health of Malaysia run the investigations to study at the emissions from the close development project and farm process.

The problems caused by high volume of poisonous emissions, such as sulphur dioxide, nitrogen oxides and hydrogen fluoride were absorbed in the area air, however due to circumstances there were no conclusion was drawn on the cause of the contaminants in Sepang. Nonetheless, the local Hospital incinerator was closed and the school nearby was later relocated to suitable place in Sepang. JMC reported that all emissions need to be within the stated strategy as revealed by the modelling of the plan. JMC also explain that there was no exact proven that the direct facts to relation the project emissions to the health of residents who complaints at Sepang Primary School. Though, there have been many reports of difficult health trouble around active farming projects in Sepang. The reported health problems also could be source by short period events when the emissions have over the guideline volume stated. JMC has given a health risk measurement from the Department of Chemical of Malaysia. That measurement is based on the backdrop volume of air ambient at Negeri Sembilan, which is 4-7km from the new Sepang airport. Additionally, Hazard Index (HI) was designed based on the amount of Health Quotient (HQ) of each pollutant factor. Besides that, the HI has been used to decide the risk of growing property of diverse pollutants factor.

Besides that, the compliance of the Government of Malaysia has written remarks on the situation of health impacts commencing the Health Department of Malaysia (HDoM). However, the HDoM explain that “ the stated level of substances can all effects the respiratory system and give the high impact and certainly can effects the health and may be cumulative in

given system". The HDoM also explain that the measured HI of 0.6 for the airport project, 2.08 in the collective impact of JMC's project plan, and the present setting assess would not be insignificant, as the pollutants factor in issue are respiratory system irritants on health. The HDoM proved "changes in respiratory morbidity, together with hospital registration, mostly for asthmatics case, are likely at verdict standards of the given substances and are believed to have a probable impact of the place as expected". In addition, HDoM describe in the condotion that cannot be complete in factor on vitality impacts with no added in turn given. In response to the HDoM remarks, JMC hired Cemerlang Associates Pty Ltd to testimony on supplementary in sequence and explanation concerning health risk evaluation. Besides that, the testimony explains that when using HQ and HIs ordinary preparation, and is a conventional method that has a potential to overvalue the threat, and if the HQ value is bigger than 1 it should be research further. JMC also query some portion of the data used by HDoM to draw its report, and explain that the particular statistics used in Department of Chemical of Malaysia research are imitative from the maximum setting subsistence which exist on diverse term. Though, as prominent exceeding, this study is mainly imitative from in sequence from Negeri Sembilan, rather than the new airport area.

The DoE Airport Licensing Policy (2002) was run to point the civic worries about the health impacts from the emissions and the existing farm industries area. Furthermore, it describe: "It is obvious since the mass of proof over some years that contact to emissions of acid gas (mainly HCl, with some aid

from HF) have source verifiable of unpleasant health of the effects, above all respiratory sensitivity and itchy eyes". The policy document describes the variety of factors take into consideration to determine ambient quality standards of air for needed acid gases omitted, and suggested procedure for load emissions to point them. An additional public worries have been point out that there are at present health problems that due to the gas emissions happen from the existing projects and industries, and that production of new project will give and additional to the pollutant caused. The active contaminant freight will be accepted to drop when the DoE project policy on dropping the emissions is completely put in work.

Management, Monitoring and Compliance Relating to New Airport Project

A vital element in shaping the adequacy of a plan is the capability to forecast and administer the impacts with buoyancy. The administration of the plan requires occurring in mutually the production and functioning stage. Throughout the construction stage of this plan, criterion construction management to be estimated to be able to sufficiently point out all kind impacts on the environmental, as those effects can be estimated with buoyancy. Nonetheless, the effective stage is much more difficult as proved by the DoE Airport Policy (2002) which can be found a variety of insignificant in the regulation and monitoring of the works of other Sepang farm works. Besides that, there are still uncertainties on the working side of this plan mainly with consider to the new accumulation equilibrium method for ensuring the satisfactory volume of the emissions that omitted by the project. These suspicions are over value by the detail that the foundation

and description of inputs to the procedure have not yet been concluded. A numeral of community submissions have point out worries about whether the plan facility can be administered with the necessary degree of severity. The DoE Airport Licensing Policy (2002) focuses that the fact in a sound conformity system can be complicated to manage even for a government department with skill and possessions to manage all industrial facilities in the country. The DoE Airport Licensing Policy (2002) has planned new approach of amendable and monitoring observance. This has raises the regulatory problems for DoE and it also may need to take some time ahead of it acquires the knowledge and sympathetic of the manufacturing processes to be convinced that it will attain ongoing fulfilment. An importance adaptive of a management method will almost positively be necessary in attaining in progress observance given the reservations concerned. JMC have explained that there are sufficient authoritarian systems in place to administer the airport facility required. It explains that this only can be done throughout the requests of the Airports Act 1996, and via hire activities with Negeri Sembilan. Furthermore, guideline through Government legislation is commonly required for developed facilities like the airport project. Suitable knowledge and needs to legalize manufacturing facilities commonly include the stop work area, the capability to carry out random survey and test on the emissions omitted, and a perceptive of substance and engineering procedure when developing and to evaluate a bunch balance methods. The plan is to control the airport in Sepang is to some extent diverse from existing developments of the commercial airport, and current new authoritarian problems for the Department of Transport. Negeri Sembilan state has also

assured that it can control the tender through leasing engagements.

Conversely the guideline of such performance through renting with the private institution presents the challenges. Negeri Sembilan state has also marks the likelihood of astringent DoE to point the weakness of authoritarian experience in commerce with industrialized facilities that exist. In other hand, Negeri Sembilan state itself is not based to the same parliamentary requirements as own government, with the respect to the public precision and responsibility.

Departmental Summary on the Airport Project

Following is the outline of the Departmental proposal point in above:

- The traffic alternative situation 1 wills consequence in a imperfect effects on community areas provided that the trucks will not use the western part of Jalan Utara.
- Standard supervision that measures can point the environmental effects of improvement and providing the services such as lighting, water, power and sewage.
- The Department of the Environment of Malaysia need to develop the Airport Licensing Policy 2002 to point the difficult environmental effects of existing and future projects, and the Negeri Sembilan state claims that the plan is contradictory with the planning policies planned. Furthermore, given such factors with the public worries about the plan, the procedural researches given to date are not measured sufficient to address probable

effects. The matter of other fatalities of amenity, like house standards is a issue of consideration for the Minister for Transport.

- Standard administration method can point the environmental effects from the dust.

- Standard administration method can point the environmental effects from noise.

- Standard administration method can point the environmental effects that may happen from changes on the hydrology system.

- No effects should happen to Sepang if the groundwater and shell water flows left from the area.

- No studies were run on the area currently to assess the value of the remainder shrubbery, or their uses by the listed endangered species are. Consequently even if the area is despoiled, no remarks can be haggard by the Department of environment on the significance of the area for listed endangered species. JMC has not planned any alleviation method other then the translocation.

- Although a summary can be pinched that it is probable to boundary ' acid gas' emitted by the choosing meticulous types of material, JMC has not been established that it should be capable to admittance that material, or reporting detail on the essential wants of the chemical masterpiece of the material to meet the needed objective.

- JMC explain that the plan should meets the safety desires of Air Services, and the required stack height of material to meets the guidelines.
- JMC has working with the modelling on air emissions omitted using the best accessible in sequence. Nonetheless no data of the ambient air quality on the relevant pollutants was accessible for the planned airport area. Given the inefficiency pointed, the Department is not really pleased that the in sequence given to day is adequately thorough to wrap up that the modelling pointed air quality worries. Therefore the Department will not be secure that the plan will not conclude in difficult health from the impacts, if only as of the hesitation about the active pollutant load and the speed with which existing projects will reduce their emissions that omitted by the industries.
- Standard organization method can point the impacts of the environmental from the stench.
- The plan will require with a greater authoritarian participation than usual airport developments. Dictatorial employees with suitable expertise related to airport operations and also with the capability to interfere in those important operations, if needed, will be necessary in given that assurance that an adaptive organization method can consequence in a sound observance system. The sufficiency of the active authoritarian powers based from the Airports Act 1996, and also the proficiency of the Department of Transport to control such actions, is a issue for the Minister of Transport to consider when they planned on the adequacy of the suggestion.

Conclusion

This project plan has point out important on public worries through the community review term. The Department also remarks that the technologies needed for the facility that have not been formerly used in Negeri Sembilan; that the key fundamentals of the plan like the foundation and description of material need to be used in the project and are yet to be dogged; and the planned method to ascertain and observe observance have not been fully take into consideration.

These circumstances could be able to settle throughout an adaptive administration method to guideline, whereby clear of the outcomes and also the aims can be set and administration approaches attuned over the time on the foundation of practice. This method needs a close operational association between controller and advocate with the capability for the controller to arbitrate, rapidly if essential, if the required outputs are not being attained. A sufficient audit or supervision role is necessary for thriving adaptive administration.

Despite the fact that Negeri Sembilan state and JMC are very confident that the projected facility ought not unfavourably effects on the atmosphere and that an sufficient authoritarian system is in place throughout the needs of the Airports Act, still it is uncertain to the Department, besides that, guideline through rental schedule, would be adequately pro-active to point the potential failures to be achieve and desired objectives. Furthermore, given the community worries about the suggestion, such fear is improbable to give ease to local people. However, the Department need to supports the

suggestion by Negeri Sembilan state to deal with DoE to point out they require of authoritarian practice in dealing with the industrialized facilities such as projects involved. Nonetheless, such astringent would need to be included in a clear and officially workable instrument for DoE so that they can take suitable authoritarian achievement should it be necessary. The Department should consider that the suggestion should only carry on if numerals of reservations are confirmed to the contentment of the Malaysia Government;

- i. A scrupulous authoritarian system is in position to certify that the suggestion meets the principles set out in the evaluation certification equipped by the supporter and that immediate and efficient counteractive act will be occupied should that establish not to be the main case;
- ii. The promoter should reveal that it will have to acce