

ENVIRONMENTAL IMPACT ASSESSMENT OF THE CONSTRUCTION OF AIRPORT IN EKITI STATE

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ABSTRACT

A well-designed airport system is a prime requisite for industrial development, operational safety, efficiency and economic sustainability of a state. The method used is the EIA is the public participation method. In carrying out public participation, a questionnaire needs to be prepared so that the answers of the public can be analyzed and used in making a final conclusion on the project. In my own case, over 90% of my study group agreed that Ekiti state needed an airport, but the same 90% also agreed that the state isn't ready yet for a project of this scale, considering the negative impacts of the airport construction and the cost of maintaining an airport. All the results of my questionnaire helped me in making my final decision, which is that Ekiti state is not yet ready for the construction of an airport considering the negative impacts of an airport on the environment. I recommend that if the project is considered in the future, the measures recommended to tackle or maintain the negative impacts of an airport construction be put in place in the airport master plan and strict regulations should be put in place to ensure they are adhered to strictly.

Keywords: Design, Airport, system, development, Construction

1.0 INTRODUCTION

1.1 Background of study

Environmental assessment (EA) is the term used for the assessment of the environmental consequences (positive and negative) of a plan, policy, program, or project prior to the decision to

move forward with the proposed action. In this context, the term ‘environmental impact assessment’ (EIA) is a study to identify and predict, evaluate, and communicate information on the environment of a proposed project and to detail out the mitigating measures prior to project approval and implementation. The EIA is essentially a planning mechanism for preventing environmental problems due to an action. Environmental assessments maybe governed by rules of administrative procedure regarding public participation and documentation of decision making, and maybe subjected to judicial review.

The International Association for Impact Assessment (IAIA) in 1999 wrote an article on the principle of Environmental impact assessment best practice that stated the purpose of the assessment is to ensure that decision makers consider the environmental impacts when deciding whether or not to proceed with a project. The IAIA defines an environmental impact assessment as ‘the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made.’

EIAs are unique in that they do not require adherence to a predetermined environmental outcome, but rather they require decision makers to account for environmental values in their decisions and to justify those decisions in light of detailed environmental studies and public comments on the potential environmental impacts. (Holder 2004)

1.2 Problem statement

This project aims to solve the problem of transportation in the state, the project will help to connect Ekiti state to neighboring states and it will also make transportation faster. It would also help with the industrialization of the state as a whole and it would also help improve the economy of the state.

This project highlights the impact of the construction of an airport on the Ado-Ekiti area and its surrounding environment, detailing the effects (positive and negative) of constructing the first airport in the state, and the reaction of the community to the construction of the airport.

1.3 Aim and Objectives of the project

The Environmental impact assessment of the construction of an airport in Ekiti state.

The objectives of EIA for this study are as follows;

- i. To identify and describe elements of community and environment likely to be affected by the proposed construction, including natural and man-made environment;
- ii. To identify and quantify any potential losses or damage to flora, fauna, and natural habitats;
- iii. To design a standard airport for Ekiti State.
- iv. To identify any negative impacts on sites of cultural heritage and to propose measures to mitigate these impacts;
- v. To identify the negative impacts and propose the provision of infrastructure or mitigation measures as to minimize pollution, environmental disturbance, and nuisance during construction and operation of developments arising from the study.

1.5 Scope of the project

The purpose of this EIA is to identify, evaluate and report the environmental and socio-economic effects of the proposed project. This process includes identification of mitigative measures that will be used to reduce or eliminate potential adverse effects, where appropriate. The scope of the EIA study covers the construction phase of the airport, investigating and analyzing;

- I. The effects of aircraft noise on institutional and residential areas, particularly at night;
- II. Increased traffic congestion in the airport approaches;
- III. Fire hazards;
- IV. Social perception;
- V. Emergency preparedness

2.0 LITERATURE REVIEW

Environmental Impact Assessment (EIA) as it relates to the construction of the proposed airport, its history, various methods of carrying out EIA, scope of EIA, effectiveness of EIA, its advantages, limitations and further reviews literature in public domain as it relates to this project.

Public participation simply means the process in which the opinion of different people and groups are included in the final decision-making process. There are plenty benefits to the involvement of the public while making EIA decisions about a project. Without the backing of the public for a project construction, there are bound to be delays and probably putting an eventual stop to the project as a whole, some of the benefits of public participation are environmental protection and conflict management.

2.1 What is Environmental Impact Assessment?

It is a process of identifying, predicting, evaluating and mitigating the biophysical, social and other relevant effects of development proposals prior to major decisions being taken and commitments made.

2.2 What is Strategic Environmental Assessment (SEA)?

It is a systematic decision support process, with its aim being to ensure that environmental and possibly other sustainability aspects are considered effectively in policy, plan and programme making. In this context, following Fischer (2007) SEA may be seen as:

- A structured, rigorous, participative, open and transparent environmental impact assessment (EIA) based process, applied particularly to plans and Programmes, prepared by public planning authorities and at times private bodies,
- A participative, open and transparent, possibly non-EIA based process, applied in as more flexible manner to policies, prepared by public planning authorities and at times private bodies, or
- A flexible non-EIA based process, applied to legislative proposals and other policies, plans and Programmes in political/cabinet decision making.

Effective SEA works within a structured and tiered decision framework, aiming to support more effective and efficient decision making for sustainable development and improved governance by providing for a substantive focus regarding questions, issues and alternatives to be considered in policy, plan and programme (PPP) making.

3.0 METHODOLOGY

3.1 The EIA process

Environmental Impact Assessment (EIA) is a systematic process that identifies and evaluates the potential impacts (positive and negative) that a project may have on the biophysical and socio-economic environment, and identifies mitigation measures that need to be implemented in order to avoid, minimize or reduce the negative impacts and also identifies measures to enhance positive impacts.

3.2 Public involvement and participation

Public participation is a political principle or practice, and may also be recognized as a right (right to public participation). The term public participation, often called P2 by practitioners, is sometimes used interchangeably with the concept or practice of stakeholder engagement and/or popular participation.

Generally, public participation seeks and facilitates the involvement of those potentially affected by or interested in a decision. This can be in relation to individuals, governments, institutions, companies, or any other entities that affect public interests. The principle of public participation holds that those who are affected by a decision have a right to be involved in the decision-making process. Public participation implies that the public's contribution will influence the decision.

Public participation may be regarded as a way of empowerment and as a vital part of democratic governance.

Nearly all EIA systems make provision for some type of public involvement. This term includes public consultation (or dialogue) and public participation, which is a more interactive and intensive process of stakeholder engagement. Most EIA processes are undertaken through consultation rather than participation. At a minimum, public involvement must provide an opportunity for those directly affected by a proposal to express their views regarding the proposal and its environmental and social impacts.

3.2.1 Background to the use of public involvement and consultation in EIA/SEA

There is no doubt that public involvement and consultation is a vital component of both successful EIA/SEA systems and specific EIA/SEA studies. It has been an integral part of EIA practice since 1970, but its use in SEA is less formal and systematic. Timely, well-planned and implemented public involvement and consultation Programmes will contribute to the successful design, implementation, operation and management of proposal actions. It also enhances the effectiveness of the EIA/SEA process.

3.2.7 Role of stakeholders in public involvement and consultation

In EIA/SEA it is not possible to consult everybody that might be considered to constitute the public. Current practice refers to identifying stakeholders who collectively can be taken to represent the public. Who are stakeholders? Basically, they are individuals and groups who have a “stake” or an “interest” that may be affected by a decision on a proposed policy, plan or project. There are two basic categories of stakeholders; primary stakeholders and primary stakeholders. The former consist of those whose interests would be affected directly by a decision on a proposed initiative (examples are local communities living in the area in which a project will be located). Secondary stakeholders consist of those not directly affected but who may be indirectly affected and/or who have an ability to influence the decision (examples might be international conservation NGOs or local/national media). Another categorization divides stakeholders into internal and external groups. The former are those involved in the decision-making and the latter are those with interests that may be directly or indirectly affected.

In most EIA/SEA contexts typical shareholders will be:

- Local people (individuals) and communities likely to be affected by the project;
- Non-resident social groups who may use local resources, either regularly or intermittently;
- Selected social categories, for example women, the elderly and the poorest people;
- Religious leaders;
- Politicians;
- The different media (newspapers, radio, television); and

- National and local government ministries, departments and statutory agencies whose remit and responsibilities includes areas and sectors likely to be affected (such as health, natural resources and land use).

4.0 RESULTS AND DISCUSSION

4.1 Design of an airport

4.1.1 Airport terminal

An airport terminal is a building at an airport where passengers transfer between ground transportation and the facilities that allow them to board and disembark from aircraft. Within the terminal, passengers purchase tickets, transfer their luggage, and go through security. The buildings that provide access to the airplanes (via gates) are typically called **concourses**. However, the terms “terminal” and “concourse” are sometimes used interchangeably, depending on the configuration of the airport.

Smaller airports have one terminal while larger airports have several terminals and/or concourses. At small airports, the single terminal building typically serves all of the functions of a terminal and a concourse.

Some larger airports have one terminal that is connected to multiple concourses via walkways, skybridges, or underground tunnels (such as Denver International Airport, modeled after Atlanta’s, the world’s busiest). Some larger airports have more than one terminal, each with one or more concourses (such as New York’s John F. Kennedy International Airport). Still other larger airports have multiple terminals each of which incorporate the functions of a concourse (such as Dallas/Fort worth International Airport).

- characteristics
- Traffic peaking characteristics
- Transfer volume and connecting times

4.1.3 Terminal concepts

There are five common terminal concepts, the concepts are;

- Pier/Finger
- Linear
- Transporter
- Satellite
- Compact module unit terminal

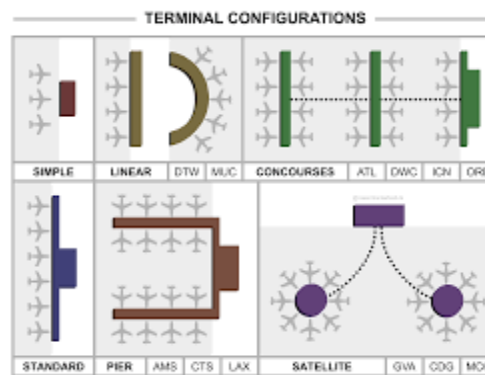


Figure 4.1: .Terminal configuration

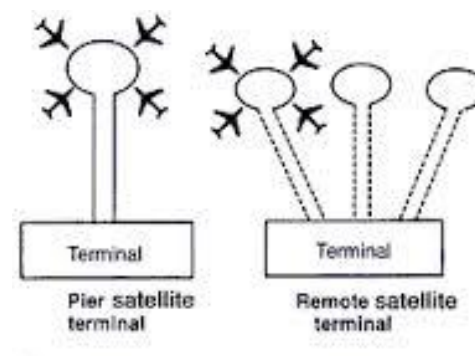


Figure 4.2: Typical examples of pier satellite terminal and remote satellite terminal

Advantages

- Centralized resources (human, facilities and amenities)

- Facilitates passenger management
- Additional satellites can be designed to accommodate future aircraft design developments

4.1.4 Runway design



Plate 4.1: A runway at Brussels airport

According to the International Civil Aviation Organization (ICAO), a runway is defined as a rectangular area on a land aerodrome prepared for the landing and takeoff of aircraft. Runways may be a man-made surface (often asphalt, concrete, or a mixture of both) or a natural surface (grass, dirt, gravel, ice or salt).

4.1.4.1 Naming of runways

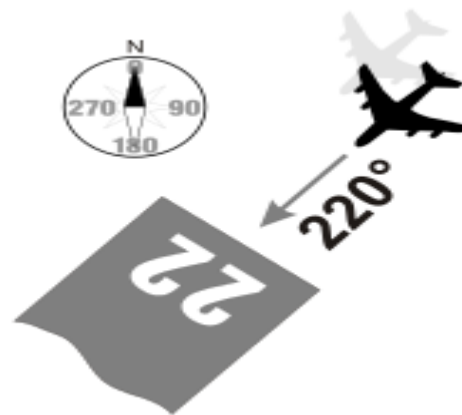


Figure 4.3: Runway 22

Runways are named by a number between 01 and 36, which is generally the magnetic azimuth of the runways heading in decadegrees. This heading differs from true north by the local magnetic declination. A runway numbered 09 points east (90), runway 18 is south (180), runway 27 points west (270) and runway 36 points to the north (360 rather than 0). When taking off from or landing on runway 09, a plane would be heading 90 (east).

A runway can normally be used in both directions, and is named for each direction separately: e.g., “runway 33” in one direction is “runway 15” when used in the other. The two numbers usually differ by 18 (=180).

If there is more than one runway pointing in the same direction (parallel runways), each runway is identified by appending left (L), center (C) and right (R) to the number to identify its position, for example, runways one five left (15L).

4.1.4.2 Declared distances

Runway dimensions vary from as small as 245m (804ft) long and 8m (26ft) wide in smaller general aviation airports, to 5,500m (18,045ft) long and 80m (262ft) wide at large international airports built to accommodate the largest jets, to the huge 11,917mX274m (39,098ftX899ft) lake bed runway 17/35 at Edwards Air Force Base in California – a landing site for the retired space shuttle.

4.1.4.3 Sections of a runway



Figure 4.4: Typical example of the section of a runway

There are runway markings.

- The **runway thresholds** are markings across the runway that denote the beginning and end of the designated space for landing and takeoff under non-emergency conditions.
- The **runway safety area** is the cleared, smoothed and graded area around the paved runway. It is kept free from any obstacles that might impede flight or ground roll of aircraft.

- The **runway** is the surface from threshold to threshold, which typically features threshold markings, numbers, and centerlines, but not overrun areas at both ends.
- **Blast pads**, also known as overrun areas or stop ways, are often constructed just before the start of a runway where jet blast produced by large planes during the takeoff roll could otherwise erode the ground and eventually damage the runway. Overrun areas are also constructed at the end of runways as emergency space to slowly stop planes that overrun the runway on a landing gone wrong, or to slowly stop a plane on a rejected takeoff or a takeoff gone wrong.



Figure 4.5: Typical example of blast pads

- **Displaced thresholds** may be used for taxiing, takeoff, and landing rollout, but not for touchdown. A displaced threshold often exists because obstacles just before the runway, runway strength, or noise restrictions may make the beginning section of runways unsuitable for landings. It is marked with white paint arrows that lead up to the beginning of the landing portion of the runway.



Figure 4.6: Typical example of displaced thresholds

4.1.4.4 Runway markings

There are runway markings and signs on most large runways. Larger runways have a distance remaining sign (black box with white numbers). This sign uses a single number to indicate the thousands of feet remaining, so 7 will indicate 7,000ft (2,134m) remaining. The runway threshold is marked by a line of green lights.

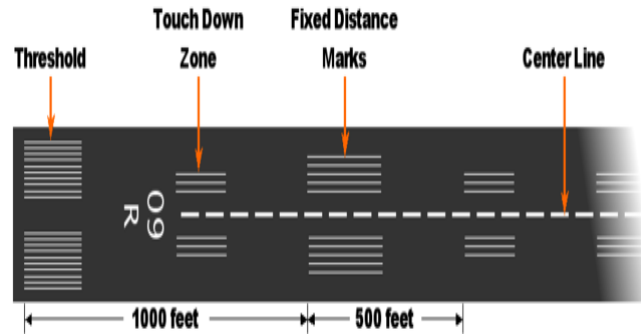


Figure 4.7: Typical example of runway markings

There are three types of runways:

- Visual runways are used for small airstrips and are usually just a strip of grass, gravel, ice, asphalt or concrete. Although there are usually no markings on a visual runway, they may have threshold markings, designators and centerlines. Additionally, they do not provide an instrument-based landing procedure; pilots must be able to see the runway to use it. Also radio communication may not be available and pilots must be self reliant.
- Non-precision instrument runways are often used at small-to-medium-size airports. These runways, depending on the surface, may be marked with threshold markings, designators, centerlines, and sometimes a 1,000ft (305m) mark (known as an aiming point, sometimes installed at 1,500ft (457m). they provide horizontal position guidance to planes on instrument approach via Non-directional beacon, VHF omnidirectional range, Global positioning system, etc.
- Precision instrument runways, which are found at medium and large size airports, consist of a blast pad/stopway (optional, for airports handling jets), threshold, designator, centerline, aiming point, and 500ft (152m), 1000ft (305m)/1,500ft (457m). 2,000ft (762m), and 3000ft (914m) touchdown zone marks. Precision runways provide both horizontal and vertical guidance for instrument approaches.

4.1.4.5 Runway lighting



Plate 4.2: A runway light from 1945

The first runway lighting appeared in 1930 at Cleveland Municipal Airport in Cleveland, Ohio. A line of lights on an airfield or elsewhere to guide aircraft in taking off or coming in to land or an illuminated runway is sometimes also known as a **flare path**.

4.1.4.5.1 Technical specifications



Plate 4.3: Night way runway view from A320 cockpit

4.2 Impacts of airports and airplanes

There are negative and positive impacts of airports and airplanes, negative impacts of airports and aviation include land take, noise, air pollution, climate change, water use, and effects on the social structures of local communities. Positive impacts include direct and indirect employment, and social and economic benefits to people who fly.

4.2.1 Key impacts caused by airports and aviation activities

4.2.1.1 Air pollution

Airports and aviation generate air pollution through a range of sources:

- Combustion of aviation fuel – aviation fuel is composed mostly of kerosene which produces nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO₂), sulphur oxides (SO_x), hydrocarbons and particulates when it burns.
- When airplanes are on descent or approach, their engines tend to work inefficiently because they only make use of 30% of the available power which leads to a certain amount of unburnt kerosene being released. These unburnt fuel droplets are a source of volatile organic compounds (VOCs) which in turn gives rise to odours.
- During take offs and especially landing, aircraft tyres get worn and burnt which leads to a release of particulate matter (PM).
- Vehicles travelling to and from the airport, and ground service equipment generate NO_x, CO₂, particulates and indirectly ozone through the burning of petrol and diesel fuel.
- During aircraft and airfield maintenance (painting, metal cleaning, de-icing etc.), and emergency and fire training use complex chemicals which can release VOCs.
- Construction of airport-related projects can lead to dust, emissions from asphalt laying etc. (Kenney, 2006)

Table 4.1: Impacts of, and standards for, air pollutants

Pollutant	Background	Impacts on human health, habitats and species
Carbon monoxide (CO)	CO is produced when fuels are burned at too high a temperature or	When inhaled by people and animals, CO bonds to the haemoglobin in the blood, and reduces the oxygen carrying capacity of the red

	where there is too little oxygen.	blood cells. The resulting lack of oxygen in the body causes cells to die
Nitrogen oxides (NO _x), nitrogen dioxide (NO ₂)	Nitrogen oxides (NO _x) comprise nitric oxide (NO) and nitrogen dioxide (NO ₂). NO is oxidized in the atmosphere to form NO ₂ . NO ₂ is acidic and highly corrosive.	NO has no significant human health impacts. NO ₂ can increase a person's susceptibility to, and the severity of, respiratory infections and asthma. Long-term exposure to high levels of NO ₂ can cause chronic lung disease. High NO ₂ levels damage foliage, decrease plant growth, and reduce crop yield. Deposition of nitrogen compounds can lead to soil and water acidification. NO _x can cause eutrophication of soils and water, which alters the species composition of plant communities and can eliminate sensitive species. NO _x is a component of photochemical smog.
Ozone (O ₃)	Ozone is generated by photochemical reactions from NO _x and volatile organic compounds, and is	Ozone can irritate the eyes, nose, throat and lungs. At high levels it can increase death rates due to lung and

	<p>an indicator of photochemical smog.</p>	<p>heart problems. It can reduce visibility.</p> <p>High ozone levels can be toxic to wildlife, and can lead to a reduction in growth of forests and crops, and altered species composition in seminatural plant communities.</p> <p>Ozone can damage materials such as rubber, fabric, masonry, and paint.</p>
Particulate matter	<p>Particulate matter is a complex mixture of organic and inorganic substances.</p> <p>Particulates are described by their size in micrometres (μm), e.g. PM10 are those smaller than $10\mu\text{m}$. PM2.5 typically contain aerosols, combustion particles and re-condensed vapours. Large particles</p>	<p>Of the air pollutants, particulates are worst for human health. They are responsible for up to 10,000 premature deaths through respiratory problems in the UK each year. PM10 can penetrate deep into the lung and cause more damage, whilst larger particles are typically filtered out through the airways' natural mechanisms. Particulates can damage surfaces and materials.</p>

Sulphur Dioxide SO ₂	usually contain dust. SO ₂ is a gas, but when it combines with water, it forms sulfuric acid, which is the main component of acid rain.	SO ₂ can cause coughing, make people more prone to respiratory infections, and aggravate asthma and chronic bronchitis. SO ₂ can attach itself to particles (see above) and, if these particles are inhaled, they can cause more serious health effects. Acid rain acidifies soils and water. This can affect aquatic life, cause deforestation, and alter the species composition of plant and animal communities. Acid rain can corrode building materials and paints.
Volatile organic compounds (VOCs), hydrocarbons	VOCs include a wide range of organic chemicals such as hydrocarbons (e.g. methane, benzene, toluene), halocarbons and oxygenates. VOCs have no colour, smell or taste, and	Hydrocarbons can be hazardous to human health even at low levels, particularly if the exposure is long term. For instance, long-term exposure to benzene has been linked to an increased incidence of anemia and leukemia; toluene can affect the central nervous system; and moderate levels

they easily vaporize at room temperature.	of formaldehyde can lead to irritation of the eyes, nose and upper respiratory track. Some VOCs can cause cancer. Odours from hydrocarbons are often annoying. Some hydrocarbons play a role in the formation of photochemical smog.
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Sources: US EPA (2007), Environment Agency (2007)

There are a few measures been proposed or carried out to mitigate the effects of air pollution include measures to control the emissions or to penalize non-compliance.

Measures proposed in airport master plans and environmental statements for minimizing air pollution impacts are:

- Reduction in the total number of vehicles that commute to and from the airport
- A system of penalties for polluting vehicles
- Introduction of charges to promote the use of lower emission aircraft
- Minimizing dust emissions by wheel washing, damping down and employing the use of covered vehicles for transportation
- Conducting a code of construction practice relating to air emission
- Carrying out air quality assessments periodically.

4.2.1.2 Biodiversity impacts

Biodiversity impacts refer to impacts on plants and animals. These include the reduction in the type and extent of habitats; bird strike and road kill; disturbance from light pollution, noise and aircraft/vehicle movements; and air pollution. There are various impacts on airport construction and operation on plants and animals, some of which are:

- Habitat loss – this occurs when previously green areas are built on, destroying the habitats of the plants and animals that live there.
- Habitat fragmentation – this happens when a larger area of habitat is split into smaller areas, for instance if it is split by a road or fence.
- Habitat degradation – this reduces the attractiveness of the habitat for the plants and animals on it.
- Bird strikes – they occur when aircrafts hit birds during take-off and landing. Roughly 80% of bird strikes involve aircrafts below 800ft, and up to 40% of bird strikes take place beyond the airport perimeter (CAA, 2001).
- Road kill - this occur when animals get hit by vehicles, for instance on access roads to airports.
- Light pollution – light pollution from airports and roads can attract animals either directly or indirectly. This can affect mitigation patterns where animals travel off-course because they are attracted to light.

4.2.1.3 Employment and economic benefits

Airports and aviation often generate much employment and many economic benefits. However they can also have economic costs.

The employment generated by airports and aviation can be split into direct, indirect, induced and catalytic employment as shown in the table below;

Table 4.2: Types and amount of employment generated by airports and aviation (based on York consulting, 2002; Oxford Economic Forecasting, 1999)

Impact Category	Definition	Examples	UK aviation-related employment in 1998
Direct	Employment wholly or largely related to the freight	Airport operator, airlines, handling agents, control authorities, concessions, agents, flight	180,000

		operation of caterers, hotels, car parking, airports or aircraft servicing, fuel airlines storage	
Indirect	Employment supported in the chain of suppliers of goods and services to the direct activities	Utilities, retailing, advertising, cleaning, food, construction, IT, fuel	75,000 in travel agencies plus 200,000 others
Induced	Employment supported by the spending of incomes earned in the direct and indirect activities	Retailing, restaurants, entertainment	100,000
Catalytic	Employment supported by the attraction, retention or expansion of economic activity as a result of access by air	Inward investors, exporting companies, visitor attractions	

However, many environmentalists claim that the basis of many of these calculations of economic benefits, including that by Oxford Economic Forecasting, is flawed:

- The environmental costs of aviation are not included, which makes comparisons between investment costs and the impact on GDP nonsensical;
- All the people employed in the aviation sector would not become unemployed if the aviation sector did not grow. The economy would develop in different ways: budgets and

investment may well be spent elsewhere, leading to employment and contributions to GDP in other areas of the economy; and

- Relating indirect, induced and catalytic jobs to a country's overall employment is essentially double counting. These jobs arise in other sectors. If all industries made the same claims, the number of jobs created would exceed the total workforce (CE Delft, 2005).

Jobs directly and indirectly related to aviation are typically relatively low-paid. Airlines are cutting back jobs where possible, for instance by promoting e-ticketing and getting passengers to carry their own luggage to the aircraft. Catalytic jobs are typically a mixture of relatively poorly paid (e.g. tourism industry) and well-paid (many of the knowledge-intensive industries that rely on air travel).

Where aviation-related employment is in areas of high unemployment, it is an undoubted benefit. However where it occurs in areas of already high employment, then it can lead to poaching of workers from other companies and contribute to over-heating the economy.

4.2.1.9 Water use

Construction of airports and airport-related development use water for mixing cement, washing wheels and damping down dust, etc. Operations of such development involve water use for food preparation, toilet flushing, cleaning of the airport and aircraft, fire drills etc. Over-abstraction of water can exacerbate problems of drought, including impacts on ecological habitats. Over-abstraction of water can exacerbate problems of drought, including impacts on ecological habitats.

4.3 Analysis of Result

Majority voted that the airport construction project should not be considered yet, some of the reasons they cited for their conclusion are; the negative impacts of the construction of an airport outweigh the positive impacts of the airport project at the moment, some potential negative environmental impacts were also cited: damage to wildlife, noise pollution, degradation of land, production of toxic waste, all of which they agreed could be maintained or reduced. Positive impacts were cited: ease of transportation, employment opportunities', connecting the entire state to neighboring states and potentially the entire world. Resettlement of local population,

compulsory acquisition of land was cited as possible effects of the project. The answers I have received from this public participation would potentially help me in making my final conclusion.

5.1 Conclusion

The legal and procedural background to EIA is complex but members of the public can be surprisingly effective in participating in the process. They can have a basic understanding of the process and apply their knowledge effectively. A questionnaire was made available to my study group, the students of Afe Babalola University. The answers they provided with helped me arrive at a conclusion. Some of the answers they sited were the unavailability of the required area of land, the bulky budget required required for the project, the problem of patronization of the airport by the indigenes of Ekiti State and citizens of Nigeria as a whole, due to lack of industrialization of the state or absence of vacation spots and also the the cost of maintaining the airport up to code. The required or preferred length of land for landing virtually any aircraft is 10,000ft (3,048m), which has not been made available yet.

5.2 Recommendation

I acknowledge that Nigeria has taken serious steps to develop effective environmental strategies by the promulgation of the EIA decree and all the procedural guidelines. To the relevant, the regulators (administrators) should be better supported and for effective compliance monitoring and enforcement, suffer sanctions and penalties should be prescribed and strictly adhered to.

It is my recommendation, that Ekiti State should obtain the required area of land legally and the industrialization of the state should be a priority, with the industrialization of the state, investors will be encouraged to invest in the airport project which would also reduce the burden of the bulky budget on the state. Also, if the project is to be given a green light in the future, the measures which I proposed to minimize the impacts of airports and airplanes should be included in the master plan of the project and the environmental statement.

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