

## Article 12. The Environmental Obstacles to Malagasy Youth's Business Creation

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### Abstract

Business creation is one of the development indicators of a country. Entrepreneurship contributes to the fight against poverty by creating jobs and incomes in parallel. In the case of Madagascar, given the progress of innovation and their impact on the environment in which businesses live, the business creation rate remains very low. The question to be clarified is then to know the nature and the responsibility shares of the ecological environment in the youth's business creation in Madagascar. Hence, the title of this paper: *the environmental barriers to Malagasy youth's business creation*. The methodology used includes a desk study and a survey, and the drafting follows the IMMRED standard. As far as the results are concerned, at a significance level of 0.75, the assumptions (ii) the fuzzy land policy gives a lot of advantages to foreigners, (iii) mining provides a lot of benefits to foreigners, (iv) poaching and poachers' impunity, are confirmed as environmental barriers to starting a business; on the other hand, the assumptions (i) the effects of climate change and (v) uncontrollable animal and plant pathologies are reversed and thus do not form any environmental barriers to starting a business. Potential young entrepreneurs and / or existing businesses will not be able to do anything without the State's true will and commitment, which has the unique and complete prerogative to abolish these environmental barriers.

**Keywords:** Business creation, ecological environment, climate change, land policy, mining and poaching

### Résumé

La création d'entreprise est un des indicateurs de développement d'un pays. L'entrepreneuriat contribue à la lutte contre la pauvreté en créant en parallèle des emplois et des revenus. Pour le cas de Madagascar, compte tenu des progrès de l'innovation et leurs impacts à l'environnement dans lequel vivent les entreprises ; le taux de création d'entreprise reste très faible. La question à éclaircir est alors de savoir la nature et les parts de responsabilité de l'environnement écologique dans la création d'entreprise de la jeunesse à Madagascar. En effet, ce présent article porte comme intitulé : *les obstacles environnementaux à la création d'entreprise de la jeunesse malgache*. La méthodologie utilisée comprend une étude documentaire et une enquête et la rédaction obéit au standard IMMRED. Pour les résultats, à un seuil de signification de 0,75, les hypothèses sont les suivantes : (ii) la politique foncière floue qui accorde beaucoup d'avantages aux étrangers, (iii) l'extraction minière qui accorde beaucoup d'avantages aux étrangers et enfin (iv) le braconnage et l'impunité des braconniers sont confirmés en tant qu' obstacles environnementaux à la création d'entreprise ; par contre, les hypothèses (i) les effets du changement climatique et (v) les pathologies animales et végétales incontrôlables sont infirmés et ne forment donc pas d'obstacles environnementaux à la création d'entreprise. Les jeunes entrepreneurs potentiels et/ou les entreprises existantes n'y pourront rien sans la réelle volonté et engagement de l'Etat, qui détient l'unique et totale prérogative, à abolir ces obstacles écoenvironnementaux.

**Mots clés :** Création d'entreprise, environnement écologique, changement climatique, politique foncière, extraction minière et braconnage

### INTRODUCTION

From the birth of an idea to the registration of a company, the creation of a company includes all the major compulsory steps to set up an independent activity. Being part of an environment, the business is not independent. Besides, its activities develop in close interdependence with the environment which imposes constraints on it. One of the elements that affects the activities of any business, either it is a service company or a manufacturer, is actually the ecological environment. Given the changes in this environment, the number of newly established companies in Madagascar is stagnating and the following questions arise:

- Are there any relationships between the elements of the ecological environment and the creation of a business? If any, what exactly are they?
- Does climate change affect business start-ups? Climate is deteriorating from day to day and this is caused by human activities and demographic pressure.
- Would the land policy adopted by the Malagasy State be a barrier to young entrepreneurs who want to set up their own businesses?
- Does poaching of protected species influence the creation of new businesses?

These questions give rise to a fundamental issue: "What are the main environmental elements that represent a barrier to starting a business in Madagascar? Hence the necessity to bring light the following issue: **"The environmental barriers to Malagasy youth's business creation"**. In fact, the responses to these questions will help to better understand the environmental aspects of business creation in Madagascar. The analyses and interpretations in this study therefore revolve

around this problem and testify the announced assumptions. Actually, this study mostly seeks not only to define the main environmental obstacles to the creation of a company but also to highlight an analysis of the latter in order to find solutions or recommendations related to the assumptions.

As regards **methodology**, a documentary review which consists in building a brief review of the literature on the ecological environment from which climate change and its entrepreneurial implications has been done to find out the hypotheses to be testified on an experimental basis and to anchor the subject theoretically. An empirical study has also been carried out through a questionnaire administered via Internet with Google form to graduating senior technician, specialized senior technician and engineering students from the three colleges of the Higher Institute of Technology of Antananarivo (IST-T). This paper follows the IMRAD scientific writing standard.

## **PART I: MATERIALS ET METHODS**

This first part consists of two sections which will firstly discuss the ecological environment and secondly the methodology adopted.

### **Section 1: The ecological environment**

This section will deal with climate change and its entrepreneurial implications.

#### **1 – CLIMATE CHANGE**

According to the United Nations Conference on Climate Change in 2015, the additional greenhouse effect due to increased greenhouse gas concentrations in the atmosphere is reflected on an increase in the average temperature of the Earth's atmosphere. This global warming, even modest, modifies the behavior of the atmosphere's air masses as a whole and causes climate changes (extreme temperatures, rainfall and wind patterns, frequency of extreme events ...) that affect all regions of the globe. These changes have impacts not only on the weather but also on the size of the ice caps, the distribution of deserts, sea levels, and ocean currents ... The current change in the greenhouse effect is at the origin of the very rapid increase of the average temperature of the Earth. Furthermore, the evolution of Western societies' way of life for a century and a half (urban planning, transport, consumer products, ...) have generated impacts on the environment and human societies, including those related to the emission of greenhouse gases and above all in CO<sub>2</sub>. The climatic change of the last decades is characterized, with an estimated degree of reliability superior to 90%, by (i) an increase of the air temperatures affecting the first eight kilometers of the lower atmosphere; (ii) a decrease in the frequency of extreme colds and an increase in heat waves; (iii) a direct influence of the depletion of the stratospheric ozone layer.

Africa is the region that contributes the least to greenhouse gas emissions. Yet, it suffers most from the impact of climate changes. African countries are the first to suffer the devastating effects of more extreme weather patterns. In West Africa, for example, a one-meter rise in sea level would result in the loss of 18,000 km<sup>2</sup> of land, resulting in serious infrastructure damages and displacement of populations.

Both agriculture and food security are also linked with climate change. An increase in temperature of 1.5 to 2 ° C by the 2030s and 2040s will result in a decrease of 40 to 80% of the farmlands suitable for the main foodstuffs in Africa (maize, millet and sorghum...) Increasingly frequent droughts, floods and cyclones threaten to tilt Africans into poverty as well. The correlation between climate, economic growth and poverty is indeed well established and will not disappear but will only strengthen.

#### **2- CLIMATIC CHANGE AND ITS ENTREPRENEURIAL IMPLICATIONS**

Climate is implied in most shocks that keep African households in or out of poverty (World Bank 2015b). The problem is particularly acute in sub-Saharan Africa where climate shocks - droughts, floods or storm surges - are already ravaging the continent, driving people to extreme poverty. Madagascar was harshly affected by the effect of climate change in 2016-2017. Rainfall was delayed, the Ikopa River dried up and the tropical cyclone Enawo caused enormous damages. Because of the very limited nature of the continent's irrigation infrastructure, the majority of African and Malagasy agricultural production depends on the variability of rainfall. This results in large swings in GDP with a strong impact on the poor's income and their ability to save and acquire the assets needed to lead themselves out of poverty. In the future, climate factors will weigh even more heavily on poverty reduction efforts. In Africa and Madagascar, agriculture is a key economic driver for poverty reduction and food security: agricultural growth reduces poverty by three times more than growth in other sectors. On the continent, agriculture typically accounts for 30 to 40 percent of GDP and employs up to 65 percent of the labor force, providing livelihoods for millions of smallholders and their families.

### **Section 2: Methodology**

Thirteen books and reports were selected to get an overview of the literature for this paper. As for empirical studies, a large questionnaire was drawn up from several think tanks among entrepreneurship teachers at IST-T. This questionnaire, inspired by the PESTEL environment analysis matrix, consists of five questions expressed in the form of hypotheses to be tested with an ordinal measuring scale (or Likert scale) of five response options and an open question to gather each respondent's free words. The study population is made up of the IST-T students in their end-of-study year from the three colleges of IST-T. The

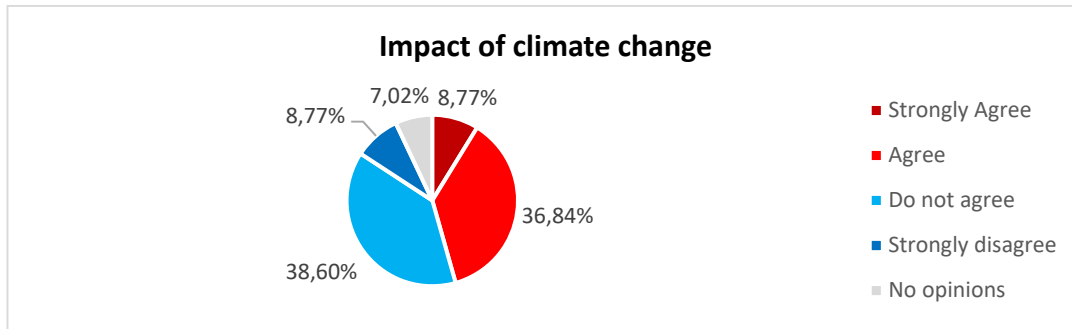
administration of the questionnaire was done online with the "Google form" tool to facilitate and to make the survey analysis, processing and data analysis reliable. An assumption is confirmed in this study if the significance level of the result is greater than or equal to 0.75. The materiality threshold includes respondents' opinions in the "strongly agree" and "agree" categories. The investigation period ran for 27 days (from February 27 to March 29, 2017) and the respondent needed about 20 minutes to fill in the questionnaire. Out of 668 individuals, 171 responded to the survey, giving a response rate of 25.60%.

**PART II: RESULTS**

This second part focuses on the research results and analyses as it highlights the implementation and development of the theories previously discussed. The results related to the defined hypotheses are therefore presented in this part.

**H1: Climate change impacts**

Climate change concerns more public opinion every day because it involves all aspects of human life and has impacts on our life and on the planet: access to energy, water, geostrategic equilibrium, population movements, ecosystem modification ... The results of the survey concerning this first assumption are hereafter:

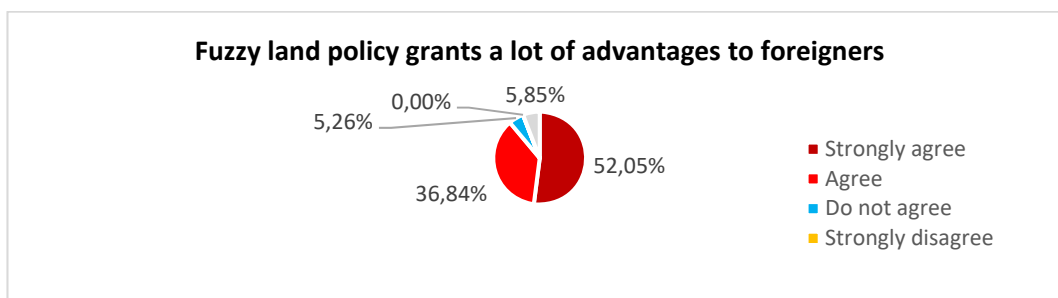


Graph n°01: The impacts of climate change Source: Survey, March 2017

The results obtained from the respondents in the "strongly agree" and "agree" categories amount to 46 per cent, a significance level of 0.46. The "no opinion" and the opposite opinions represent 54% of the responses. Indeed, the assumption is not confirmed because its significance level does not exceed 0.75. Nevertheless, a trend towards confirmation of the hypothesis is looming towards the near future.

**H2: Fuzzy land policy grants a lot of advantages to foreigners**

Land policy mainly deals with controlling land use and planning as well as urban planning. As in many African countries, prior to colonization, land ownership was not legally written in official documents in Madagascar. After the colonization, the Malagasy State retained the system of presumption of public domain which considered that all the lands belonged to the State. In 2005, a land reform repealed this presumption and since then, the Malagasy land policy has been unclear and foreign investors seem to have usufructuary rights from this policy. Respondents' opinions regarding this second assumption are shown in the graph below.



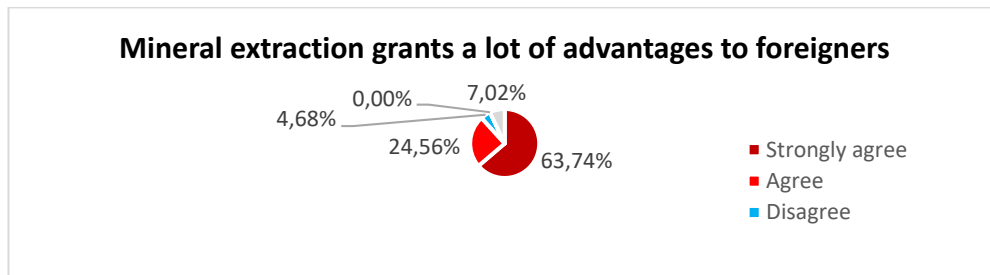
Graph n°02: Fuzzy land policy grants many advantages to foreigners Source: Survey, March 2017

The results obtained from respondents in the "strongly agree" and "agree" categories were 89%, meaning a significance level of 0.89. The "no opinion" and the contrary opinions represent 11% of the responses. Indeed, the second hypothesis is confirmed because its significance exceeds greatly 0.75. It is indicative of the Madagascar land situation given that only 10 per cent of all lands and plots in the country have land titles or a legal land certificate. Malagasy families, occupying 90% of the land, are therefore likely to be expelled at any time with or without compensation. The new policy gives hectares of lands to foreigners who build huge mining infrastructure that significantly degrade the environment in an irreversible way.

**H3: Mineral extraction grants a lot of advantages to foreigners**

Thanks to its large deposits of unexploited minerals, the mining sector represents a growing part of the national economy of Madagascar. In fact, the three main mining areas in Madagascar are Ambatovy in the east of the country, Qit Madagascar

Mining (QMM) in the southeast, and Kraoma in the west and they all belong to foreigners. The following graph below presents this third hypothesis perception results.



Graph n°03: Mining extraction granting a lot of advantages for foreigners

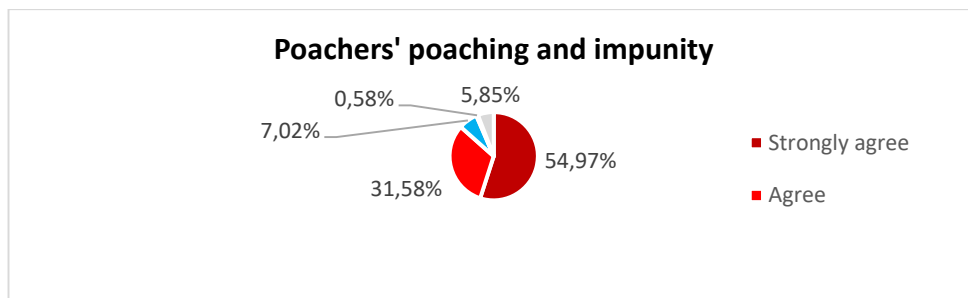
Source: Survey, March 2017

The results obtained from respondents in the "strongly agree" and "agree" categories were 88%, a significance level of 0.88. The "no opinion" and the contrary opinions represent 12% of the responses. Indeed, this third assumption is therefore confirmed.

In Madagascar, artisanal and small-scale mining is largely informal and disorganized, and most artisans use this activity only to supplement other economic activities, mainly agriculture, and thus do not devote themselves to it all year long. Gold miners alone account for 350,000 to 500,000 people (Cook et al., 2012) and these small farms are not sufficiently supported by the State.

**H4: Poachers' poaching and impunity**

Poaching involves hunting and killing animals illegally. Hunters generally do not have a hunting license and use prohibited weapons to attack protected species. It has important environmental, economic, social and political impacts. The graph below shows the testing results of this hypothesis.



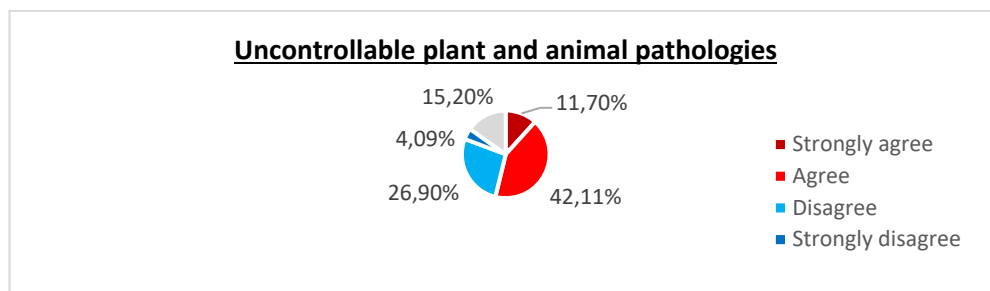
Graph n° 04: Poachers' poaching and impunity Source: Survey, March 2017

The results obtained from the respondents in the "strongly agree" and "agree" categories are 87%, or a significance level of 0.87. The "no opinion" and the contrary opinions represent 13% of the responses. Our assumption is therefore confirmed.

In recent years, rare species have been illegally shipped outside the country. To achieve their ends, poachers even burn the land. Illegal fishing in the western part of the country also minimizes the amount of fish that Malagasy fishermen should collect per day. The illegal cutting and exporting of rosewood is almost unpunished too.

**H5: Uncontrollable plant and animal pathologies**

Animal pathology and plant pathology respectively refer to the study of animal diseases and plant diseases. Their control would result in the various species' prosperity in their environment and the increase of the country's biodiversity. In fact, uncontrolled animal and plant pathologies pose a high risk of mutating an epidemic and the disappearance of flora or fauna population. This fact implies a reduction of resources for companies. The graph below shows the sample's opinions on this question.



Graph n°05: Uncontrollable animal and plan pathologies Source: Survey, March 2017

The results obtained from respondents in the "strongly agree" and "agree" categories were 54%, or a significance level of 0.54. The "no opinion" and the opposite opinions represent 46% of the responses. This hypothesis is therefore rejected. A trend toward confirming the hypothesis is looming towards a near future though. **PART III: DISCUSSIONS ET RECOMMENDATIONS**

This part represents the strategic part of the study so it will focus on the proposal of appropriate solutions to the hypotheses.

### **Solution 1: Increase of mining royalty rates**

Madagascar's mining sector generates revenues through a range of taxes, royalties, administrative fees and dividends calculated from the analysis of the neighboring countries' royalty rates to maintain Madagascar's competitiveness. A fixed tax rate on corporate profits of 20% is applied to companies operating in the sector. The government also makes revenues through royalties on mineral sales. In the case of raw mineral exports, the payment of a 2% royalty of the sales price is due at the first sale. Yet, minerals extracted for research purposes and development are exempt from payment of royalties. Weakness has been noted in the setting of these fees. Companies that add value to raw minerals prior to export (such as Ambatovy) are subject to a lower royalty rate of 1%. Royalty rates remain fixed despite international price movements. Moreover, royalty and tax rates tend to favor the private sector because Madagascar's royalty rate is one of the lowest in the region. According to a 2012 study conducted by the African Development Bank (AfDB), the average royalty rate in African countries was 3.5%, almost the double of the Madagascar rate of 2% (Economist Intelligence Unit, 2013).

The Government should think of increasing royalty rates while maintaining competitiveness. Operating companies must build infrastructure to offset the environmental and socio-economic impacts of their activities and the state must support business creation.

### **Solution 2: Fight against poaching**

Wildlife trafficking is one of the most lucrative illegal trades in the world with an estimated annual value of \$ 23 billion. It is a multi-faceted global threat since poaching and wildlife trafficking are eroding biodiversity and are ravaging endangered species; they also breed insecurity (poachers' gangs are often linked to organized crime), perpetuate conflict and encourage corruption. Strengthening governance and law enforcement can be achieved with the increase of efficient ranger patrols, field communications, information sharing and aerial surveillance.

## **2- AWARENESS AND COOPERATION**

Much more awareness-raising work is needed to reduce the request of illegally traded species. The true value of wild fauna and flora and the dangerous impacts of this illegal trade on development and economic growth must be taught to communities.

### **Solution 3: Review of land policy**

Land involves issues of identity, power, sharing of wealth, relationship between the state and the people. The recent land tenure debate in Madagascar has been skewed by focusing particularly on foreigners' access to land ownership, leaving the land problem to an incompetent land administration. In smaller circles, "land reserves" are too quickly associated with large private investments. The scarcity of land and land pressure, following population growth and large population movements affect new regions. In the Southwest, peasants have ended up "eating their forests" and are forced to reorganize the land and their agriculture. Land requires new institutional and legal solutions. Given the problems of application in Madagascar, solutions more adapted to each place must be found though.

### **Solution 4: Implementation of action against animal and plant pathologies**

Since most control programs aim at eradicating the causative agent responsible for diseases, it is necessary to seek to mitigate the impacts of these diseases and to clearly describe the program objectives which can range from alleviating the impacts of the disease to its progressive control or eradication. The State must design a plan adapted to the program purpose in collaboration with the stakeholders too. The different solutions planned for the intervention must be based on the efficiency, the cost of implementation and the expected benefits of the success of the program.

### **Solution 5: Actions for the fight against climate change**

Climate change must be taken into account in all fields by avoiding an increase of the earth's temperature which is unbearable for the man and the ecosystems. Due to the inertia of the climate system (several decades for the atmosphere, several centuries for the oceans), this evolution will continue despite all efforts. To meet the emergency and in the long term, greenhouse gas emissions must be reduced to limit the increase in temperatures and to keep it below 2°C. Moreover, the adaptation to climate change effects is important to anticipate the problems.

## **1- REDUCING GREENHOUSE GAS EMISSIONS (GHG)**

Limiting the extent of climate change requires the reduction of greenhouse gas emissions and the increase of "carbon sinks". The gradual elimination of the most energy-consuming and most emitting vehicles by replacing them with low GHG emissions (lighter and small ones, electric ones, hybrids ...) involves financial incentives for the purchase of sober vehicles and awareness though.

## 2- ADAPTING ONESELF TO A CHANGING CLIMATE

To achieve this, we must change lifestyles, implement new policies and reinvent appropriate practices. By anticipating foreseeable changes, businesses will be less vulnerable and less likely to be forced to take action in a hurry. This evolution is taking place right now. The vital transformation must be rapid and widespread because the impacts of climate change affect the planet and human societies.

### CONCLUSION

By creating jobs, entrepreneurship is important for the Sustainable Development Goals as it stimulates economic growth and innovation, improves social conditions and helps to meet environmental challenges. Like any entity, a company is surrounded by controllable or uncontrollable elements which constitute its environment. A market and the different constituent actors are likely to spread influences which constitute the macro environment. One of its elements is the ecological environment.

Companies are moving towards more respect for the environment. Moreover, the company must not forget that the consumer is more and more attentive to all these elements: physical environment (pollution of water, air and soil), transport infrastructure and ecological consequences (natural disaster, climate change, government interventions waste management and greenhouse gas emissions). This paper has thus allowed to understand and analyze everything related to the ecological environment of Malagasy companies.

Assumptions related to ecological environment that affect business creation, including climate change, mining extraction, land policy, poaching and pathologies were defined. Analyses and interpretations from the survey tested if these elements represent obstacles to business creation or not. Indeed, these elements represent barriers to Malagasy youth's business creation and solutions have been proposed to remedy them: increasing the mining royalty rate for the private sector, putting anti-poaching actions in order to preserve biodiversity, reviewing land and property policy, finding out actions to fight against the pathologies of animals and plants and finally thinking about climate change because climate is changing and is directly affecting businesses. To achieve this, fighting against climate change, reducing greenhouse gases and adapting oneself to the changing climate to anticipate the unexpected must be done.

### BIBLIOGRAPHY

**BANQUE MONDIALE**, Document de travail, « accélérer un développement résilient au changement climatique et à faibles émissions de carbone », 2015/11/30

**CERVIGNI, R., R. LIDEN, J. E. NEUMANN et K. M. STRZEPEK**. 2015. « Enhancing the Climate Resilience of Africa's Infrastructure: The Power and Water Sectors », Africa Development Forum Series. Washington DC, Banque mondiale. DOI : 10.1596/978-1-4648-0466.

**CNUCC** : Conférence des Nations Unies sur le changement climatique, 2015.

**COOK J. et al.**, « Quantifying the consensus on anthropogenic global warming in the scientific literature », 2013, in Environmental Research Letters, Volume 8, Number 2

**CRAWFORD A. et al.**, « Rapport d'évaluation de Madagascar », Publié par l'Institut international du développement durable, 2015

**DE HAAN, C., ROBINSON T., ERICKSEN P., WANE A., TOURE I., ICKOWICZ A., LESNOFF M., HAM F., FILLIOL E., MSANGI S., GERBER P., CONCHEDDA G., MOTTET A., CERVIGNI R., et MORRIS M. L.**, « Livestock Production Systems in the Drylands of Sub-Saharan Africa : Rethinking Development Options. » Document d'information préparé pour «African Drylands Study », 2015, Banque mondiale, Washington DC.

**ECONOMIST INTELLIGENCE UNIT. 2013**, « Madagascar: Royalty rates could be increased. EIU, publié le 19 février 2013.

**FAO** (Organisation des Nations Unies pour l'alimentation et l'agriculture). 2014. « The State of Food Insecurity in the World: Strengthening the Enabling Environment for Food Security and Nutrition ». Rome, FAO.

**GIEC** (Groupe intergouvernemental d'experts sur l'évolution du climat). 2014. « Changements climatiques 2014 : Rapport de synthèse ». Contributions des groupes de travail I, II et III au 5e Rapport d'évaluation du GIEC. Genève, GIEC.

**ODI** (Overseas Development Institute). 2013. « The Geography of Poverty, Disasters and Climate Extremes in 2030 ». Londres.

**PELLING, M., and B. WISNER**, eds. « Disaster Risk Reduction: Cases from Urban Africa ». London: Earthscan.

**WOLFRAM S., and LOBELL D.B.** 2010. « Robust Negative Impacts of Climate Change on African Agriculture », EnvironmentalResearchLetters5 (1). <http://dx.doi.org/10.1088/1748-9326/5/1/014010>.

**WORLD BANK**.2009. « Africa: Making Development Climate Resilient: A World Bank Strategy for Sub-Saharan Africa ». Washington, DC.,

<https://openknowledge.worldbank.org/handle/10986/3211>