

The Training-Employment Transition of Certificate Holders in Science and Technology of the University of Ngaoundéré (Cameroun)

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Abstract

This contribution analyses the insertion of certificate holders in science and technology into the job market as well as of the training-employment transition. It intends to bring out the peculiarity of the job market of the latter based on the establishments solicited, level of training and sector of activity. To do this, a survey of 360 employees using a questionnaire was carried out in the regional and divisional headquarters of North Cameroon, in the Figuil Subdivision and in the towns of Yaoundé and Douala. Statistical analyses using the logistic regression, revealed that behind the training-employment transition is hidden a lot of disparity in the domain of science and technology. The time taken to get employed differs in relation to academic speciality, level of training and sector of activity.

Keywords: training-employment transition, science and technology, certificate holders, job market, University

1. Introduction

In Africa, the challenge of youth unemployment is particularly strong. African youth encounter difficulties attaining employment, difficulties in their professional career, inactivity and unemployment that is susceptible to degenerate more (Delphine B., 2013). The notion of training-employment transition is becoming more important in these countries due to the multiplicity of universities. Even though the proportion of youths in tertiary education is still the lowest in the world, according to UNESCO, this observation does not hold when it comes to technical and scientific disciplines. In the modern world of technology, it is often thought that each society should have had its disciplines, and generally in countries of the North there is an absence of graduates in these disciplines. In such a way, as shown by this article, certificate holders in these disciplines have difficulties getting employment in countries of the South. This article takes the specific case of a university in Cameroon situated in the region of Adamawa, with the main desire of promoting regional development and fight against unemployment among certificate holders. In this institution, training in the career of science and technology is strongly tilted towards technological and professional that covers the principal problem of development and partially opens up for direct employments (Mediebou C., 2011). Nevertheless, each year this institution issues certificates in the science and technology domains but it is highly observed that at the end of the training a majority of certificate holders head towards Douala, which is the economic capital to look for employment while North Cameroon harbors a well diversified natural potential capable of generating employment. The increasing population of young certificate holders looking for jobs is where the interests of this article come from.

The relationships between education and employment have been studied at length in the course of the last decades for the whole continent (UCW, 2010, Salazar, 2010, ILO, World Bank). This close relation between education and job acquisition is far from being applied neither to all categories of the population nor to all regions of the world. All young certificate holders do not have the same probability to succeed in their transition. The participation rate of certificate holders in the job market is more or less falling uniformly throughout the world (O'Higgins, 2003). As such it can be said that the underemployment of certificate holders is partly due to the choice of a career that does not lead to employment and partly on the wrong fixed idea of a sure public service employment that hinders earlier orientation towards the private sector. Three problems, therefore, come to light: increase in number of certificate holders, none adapted preferences and none adapted structure of universities.

This situation is very important since the unemployment rate of certificate holders keeps increasing and there exist no profound analyses on the training-employment process in Africa especially in Cameroon. It is thus seen that the unemployment problem persists since entry into public service is the main objective of most of them. In this context, (Hervé Gondié et al. 2011) carried out a study on the training-employment transition in the social sciences and economics careers of the University of Ngaoundere and the findings show that some of these reoriented towards professional training to be more qualified to get into the job market. Others, on the contrary, continue their education while waiting for an employment opportunity or competitive entrance examinations into the public service or into a training school. In the Cameroonian context, youth employment has experienced a significant drop since the beginning of the 1990s. Cogneau et al. (1996) observed that in Cameroon, the economic recession of the 80s that restricted recruitment into the administration and into several inefficient private enterprises instead lead to a high increase in the unemployment of certificate holders. This brought about the institution of the structural adjustment plan and the shrinking of recruitment into the public service. Since the year 2000, Cameroon according to the IMF experienced an economic growth rate of 5% in 2012 that led to a take off in economic activities in all sectors. Otherwise, this situation is unquestionably due to the delay in the professionalization of training in the higher education in Cameroon (Fohopa et al., 2006). Confounded with this situation, the informal sector is the only sector providing employment opportunities, though not decent, but an option that ensures survival (DSRP, 2006). The objective of this article is, thus, to analyse the transition between training and employment of certificate holders in science and technology of the University of Ngaoundere in the job market. The aim in the frame of this work is to bring to light the duration between end of University training and acquisition of first job in terms of solicited establishments, level of training and sector of activity. To achieve this, the following methodology was used to acquire the results whose analyses led to the ensuing discussions.

2. Methodology

To achieve the set objective, it was important to carry out a survey for data from the University and from authorities in charge of formulating labor market policies. A survey of 360 certificate holders using questionnaires was carried out in the 15 Divisions that make up the three regions of North Cameroon (Adamawa, North and Far North) and in the Figuil Sub-division in comparison with the two major metropolises of Cameroon, which are Douala and Yaounde. This method was preferred because in such a study, qualitative anthropological and sociological survey could produce more profound knowledge on the transition of individuals but not for a larger group. As such, this training-employment transition is observed from 1996 marking the year the first batch of graduates graduated to 2007. The questionnaire used was conceived following the model of that of the Association of African Universities (AAU). This model has already been used in surveys for the follow up of certificate holders in several African countries. It is centered on three sections: 1) the academic career of the surveyed person, 2) transition between training and the job world, 3) the professional situation at the survey period. The samples were drawn using the random sampling techniques due to the dispersed nature of certificate holders over the national territory of Cameroon. The principal survey technique on the field was that of the “snow ball” method. The treatment and analysis of data were done by way of logistic regression. It allowed for the study of the relationship between binary variable responds, which is the duration of training-employment transition and three other explanatory variables, which were solicited establishments, level of training, and sector of activity. To complete the different preceding statistical tests, the Wald and the Hosner-Lemeshow tests that allows for the confirmation of the validity of the model in order to realize statistical tables from which graphs and thematic maps were drawn were used.

3. Results

3.1. An After Training Employment Situation Determined by Level of Training

The situation of certificate holders after obtaining their certificates allows one to know the number of years between the end of schooling and job acquisition. The level of training stands out as the tool used by job seekers and employers. For job seekers, the level of training plays a notification role of aptitude and to the employers; it acts as filter allowing for the identification of the most qualified individuals to be recruited into the available jobs (Spence, 1974). It is revealed that a minority is unemployed and is not searching for jobs or is still continuing with a professional training after their degree or the DUT, while 98%. This revelation indicates that during the three years that follow the acquisition of certificates, 30% of degree holders pursue specialized training while 8% of them continue with professional training.

All of this is with the intension of increasing their knowledge, capacity or qualification in a given domain to multiply their chances of acquiring a better job. On the contrary, from the fourth year, the rate of those already employed increases. These are degree holders that continued training in ENSAI. It is, however observed that there are many of the (29.7%) who are jobless between the first and the sixth year. During the last two years, there are fewer. The situation is increasing for those who acquire a job the first year after their degrees or DUT. We observe that the numbers are fewer during the first three years and more than 50% acquire their jobs after the fourth year of obtaining their certificates. This is confirmed by periods of prolonged unemployment (that is more than one year). 65% of unemployed Cameroonians are in this situation for more than a year. In general, prolonged unemployment affects more first time job seekers than the previously employed at 72.7% and 58.1%, respectively. The latter obviously benefit from contacts and experience they already have from the job market. This is partly accounted for by the fact that most of them come from poor backgrounds and partly by the absence of scholarships for the second cycles (fig. 2). Figure 2 shows that only 40% of degree holders continue into the second cycle. The number of years between the end of the third cycle and acquisition of a job is shorter than for those with the first cycle certificate. The latter, graduate from ENSAI, which trains engineers and from the faculty of science that trains Masters holders in the second cycle.

It is realized that the number of those still seeking jobs reduces gradually as the years go by. The proportion of certificate holders who have the opportunity to acquire a job increases as from the third year. However, only 0.3% undertakes specialised or Professional training. As such, the more the level increase, the lesser the certificate holders. One more, while selection into the third cycle is not only selective, it requires resources and patience to be able to finalise research. Only 5.6% of our sample was able to continue to the third cycle (fig. 3). It appears that the proportion of those who acquired employment after their PhD is stable in the course of the first seven years in the same way for those who are not employed. Few on them undertake any specialized training. They are generally in their PhD programme aspiring to gain employment in the University. As such it can be said that graduates of the two major training school of IUT and ENSAI have more chances of acquiring direct employment than those from the Faculty of Science. However, those who are more qualified such as agronomic engineers have less chances of gaining employment compared to those in industrial and production engineering.

3.2. Time for Job Search Based on Academic Specialty

Degree holders in science and technology from the University of Ngaoundere are increasingly finding difficulties getting absorbed into any profession due to their career profile. As such, there exist differences between professional absorption degree holders from the faculty of science and technology disciplines IUT (University Institute of Technology), ENSAI (Higher National School of Agro-industrial Sciences). It has been observed that the periods for job search vary and are based on the objectives, mobility and the means available to each individual. Some started searching for or obtained jobs before the end of their training. Others started searching for jobs at the end of their training and the majority fall within this category. This leads to variation based on the establishment solicited in the training-employment transition (Figure 4). It is important to note that academic specialty has little influence on the time a degree holder takes to acquire his first job. However it gives orientation to the quality of professional absorption. The duration of joblessness is long in Cameroon and extends for about three years after university studies (Mediebou C, 2011). This duration has to be interpreted as the time during which the unemployed has not had access to a “veritable” job, and not as period during which the individuals was involved not even in the least activity. This figure brings out the difficulties for the unemployed to integrate or be reintegrated into the labour market.

Studies have shown that the period for job search varies from country to country and in areas of study (Omeje 2007). The time put in to search for a job varies in function of the solicited establishments and training career. As such, acquiring a job before obtaining a job means that the degree holder had this job before getting into the university. While those who search for jobs upon obtaining their degrees hold that the others did during their training while awaiting the certificates or in the course of their mid course or end of course internships. Training thus appears as an investment that ameliorates individual productivity; each individual bargains between investment cost and output generated by educational training (Gary Becker, 1993). It emerges from this observation that majority of degree holders look for jobs after their degrees notwithstanding the training career, while a minority do it in the course of training while another minority look for jobs before entering university, which is abnormal. This last group is made mostly of those who start working before entering the university.

The remaining 14 degree holders are those who are self-employed. The methods applied in search of a job equally depend on the academic career of the degree holder. The ease to integration is also based on the university career.

3.3. A Transition Duration between end of Training and Beginning of the Search or of Acquiring a Job by Month and Year

The period used in looking for a job varies not only in terms of years but equally in terms of month of completion, simply put, many factor account for this. To better understand this phenomenon, the number of months taken by those who acquired jobs before obtaining their diplomas. As such, 11% of degree holders acquired a job before their degrees (figure 5). Survey results show that 24 people acquired jobs between 1 and 5 months before obtaining their diplomas. These students established relationships with the professional milieu during their academic internship. On the other hand, 17 respondents acquired jobs within a period between 6 and 9 months before obtaining their diplomas. Individuals can do other types of investment such as investment on knowledge about job markets that is getting information on jobs, accepting a less remunerative job but capable of providing opportunities to build a career and even geographic mobility to take up some employment opportunity (Diane G. Tremblay, 1997). Degree holders found jobs between six and nine or even more months before acquiring their diplomas have thus been classified into two categories. Partly there are those who take up part time jobs in private organizations found in the town of Ngaoundere to meet up with their needs. These are degree holders from the faculty of science. On the other part, those who were already employed before schooling to improve their qualification in order to acquire a post of responsibility are most graduates from IUT and ENSAI. To better understand this phenomenon, we will analyze the employment situation after completing the different levels of training.

3.4. Number of Months Taken to Look for a job after Studies Based on Establishments Solicited

The number of degree holders sent to the job market by the University of Ngaoundere since 1996 is on a permanent increase while integration possibilities remain uncertain. The public sector is far from being the only outlet, while the production sector offers only very little or no employment. The fear of unemployment and lack of financial means pushes graduates to go elsewhere and experience has shown that those who continued up to the doctorate have been motivated by research scholarships at their disposal especially those by the French Cooperation. As such, 89% of graduates obtained employment after acquiring their diplomas. Data on the figure even if it does not allow for a conclusive analysis in respect of academic career in the higher institution, supplies basic elements used to analyze the number of months taken by a degree holder to be integrated after studies. Seen from the angle of training schools, degree holders from the training schools look for jobs for six months while those while those from the faculty of science go beyond three and even four years equivalent to 48 months. We are limited to degree holders, who are, according to probability about being integrated into the job market (“young degree holders”). Taking up a job that has no link with connection to university training can have an impact on economic development. The contributions of degree holders from science and technology career to regional development, therefore rests on several factors. Once employed, we realize that degree holders from the two higher training schools who are more recruited in the private sector are more unstable in their jobs than those from the faculty of sciences. This concords with the work of Muhammed et al (1996), who in a comparative study on professional integration of degree holders of the faculty of arts and those of the faculty of science of the Maker ere University, observed that students from the sciences have more chances of being recruited after acquiring their diplomas than those from the social sciences. On the contrary, degree holders from the social sciences are more stable in their jobs than those from the fundamental sciences.

3.5. Integration based on Sector of Activity and type of Educational Career

The distribution of activities in the economy of a country brings out two main types of economic sectors: the public and the private sector. As such, the public sector includes all enterprises and structures operating under government authorization. In this sector, are mainly found administration, teaching and public enterprises. Of the 146 degree holders from the faculty of science, 78 operate in this sector. The private sector on its part is that operating on private capital. This is a sector that is dominated by capitalist enterprises and other commercial structures such as banks, insurance among others. In Cameroon, this is a much diversified sector that is developing fast with a predominance of multinational and transnational enterprises. This sector recruits most of the degree holders from IUT and ENSAI. About 56 of degree holders from the sciences and technology operate in the private sector. In this sector, one finds private enterprises and job creators.

For most of these enterprises, recruitment of workers is determined by gains to be generated. Certificate holders operating in this sector are graduates of higher institutes of training. This is because more employment opportunities are available for those who underwent practical training that gives chances for direct employment. However, degree holders from the faculty of science are also found there. Most degree holders from the faculty of science are recruited into the local or central public administration. Here, the public service is the major provider of jobs. Getting in here is through competitive examinations and direct recruitments of contract workers into the different services. These competitive examinations admit candidates into professional training schools such as Higher Teacher's Training College (ENS) and Higher Institute of Youth and Sports (INJS). About 4% of samples are still unemployed or searching for a job. Generally, when these degree holders do not find a job, they get into the informal sector, which with its 90.4% of working population (55.2% found in the agricultural sector), offers the greatest opportunity for economic integration despite the precarious working conditions. The formal sector accounts for less than 10% of jobs equally distributed between the public and the private at 4.9% and 4.7%, respectively (EESI, 2005).

It is equally important to point that most of those working in the informal sector consider the situation as transitional and hope to get a sustainable and well-paying job in the public or private formal sector in future. These activities include vocational activities, temporal work and inactivity that amount to unemployment. The transition of young Africans through the job market is done in two different ways. Education while far from being universal due to its low output, some youths directly get into the job market without acquiring any formal education. Others on the contrary get into the labor market after being to school (Garcia and Faares, 2008). However, the sector of activity that corresponds to the type of training acquired can guide the choice of place of residence. As such, the representative analysis of degree holders in the job market was also done by region and by sector of activity (figure 7). It appears that the public administration in the circumstance of primary, secondary and higher education as well as the general administration are the principal job providers in the region followed by the private sector. Some divisions such as Mayo-Rey, Faro, Faro and Deo do not even offer favourable conditions for the integration of degree holders, due to the enclave nature of the areas that inhibits economic and social development. Job offers in higher education had to be defined taking into consideration as much as possible the size of the modern sector and the nature of jobs (in respect of level of qualification) that can be available. It is equally increasingly proposed that training in the higher education should be tilted towards not only still job seekers but equally job creators (UNESCO, 2003).

4. Discussion

The average unemployment rate in Cameroon is generally around 30%. That of degree holders from higher education especially those trained in the faculties varies between 30 and 60%. If this rate is high for degree holders from the faculty, it is low from professional training schools where 95% of graduates find a job at the end of their training. This high rate is explained by the quality of education received by students in the faculties, which does not always fit with the needs of the enterprises. Studies are more theoretical in the faculty of science and the resulting degree holders prefer specializations that are not well adapted to the job market. Most often they prefer biology and not electricity, computer sciences and others such as physics, which is more important in countries of the North.

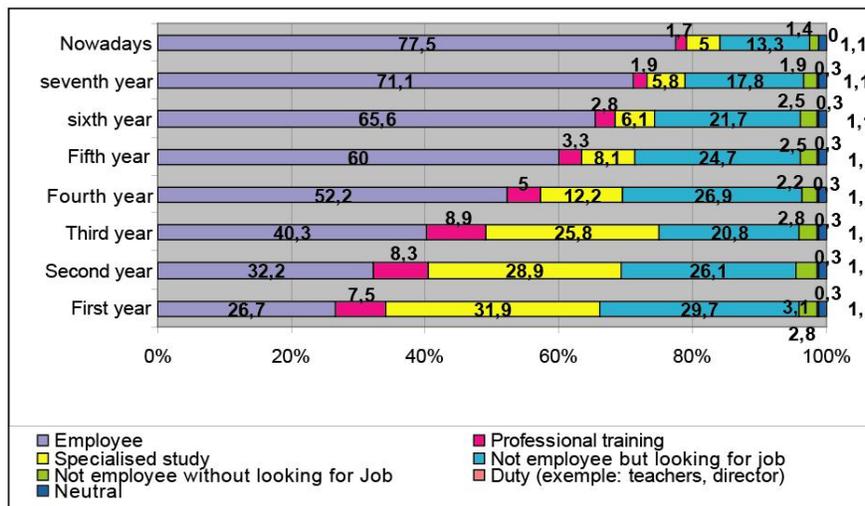
After acquiring the first degree, therefore, the integration mode is either through higher training schools or continued training or still continuing education to the doctorate research cycle, which makes the duration training-employment transition longer for certificate holders from the faculty of science than for those from higher training school. While those from the two higher training schools of IUT and ENSAI undergo a more practical training that leads to direct employment. The integration methods are much more by contacting the employers without any idea whether there are vacancies or by personal relations. In spite these differentiation, the same difficulties are encountered by all degree holders such as inability of the structures and the limited number of places to absorb the entire degree holder. Training therefore has to be tilted towards creation of enterprises. For some years now in Cameroon, youths entered the job market not only because they want to put their knowledge acquired from the university into practice but because they want to exit unemployment and find their way into the job market. All of these factors are consequences of the economic crisis that struck Cameroon at the beginning of the 1980s. It is for this reason that the famous expression "it is most important to have an administrative number of the public service first before looking for what we can do better" was common place among degree holders looking for jobs.

This is the case of one degree holder who was recruited as a contract officer in the regional delegation of finance in Garoua with a degree in Biology. He had failed in all competitive examinations into the public service and thanks to relational connections he was recruited on temporary basis with his “Baccalauréat” the equivalent of the GCE A/L. Still in the same town a degree holder from the faculty of science with a Masters without theses who had been employed as a store keeper in the supply center for pharmaceutical products was later integrated among health the personnel using his high school certificate (BAC). Elsewhere four other degree holders undergoing training in the National Centre for Youth and Sports were found. These had the first degree as their last diploma but entry into this school requires only a secondary school diploma, which is far lower than their highest diplomas. This leads us into thinking that degree holders are more enticed by the public examinations since these schools are among those from which integration is immediate after training. Public service examinations, therefore, cause panic among youths of all ages, of all social classes and from all regions of Cameroon. When such examinations are launched, thousands of files are submitted just for a few hundred places. For the first recruitment of lecturer into the University of Maroua 600 files were submitted for 55 places. Among these aspirants 100 of them had terminal degrees (PhD) and the others were doctorate students. These are the unemployment indicators for Cameroon. We realized that young degree holders are caught in a dilemma since they no longer know what to do to get a job after their training.

5. Conclusion

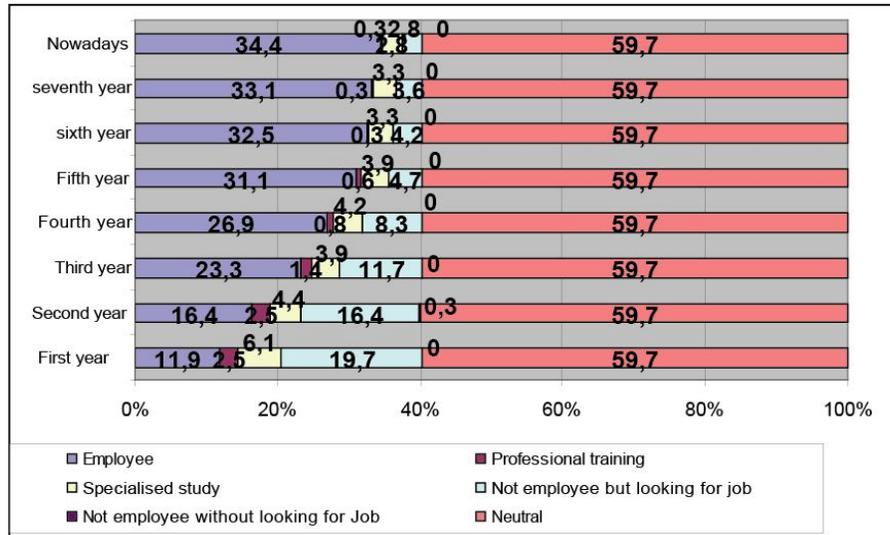
This article aimed to analyze the transition process between degree holders in science and technology from the University of Ngaoundere and employment. Field surveys and secondary data collection are the methods that were used to find out that employment opportunities are many in the domain of science and technology but the time lapse for the transition between completing the training and acquiring a job for the first time differs based on the establishments solicited, the level of education. Degree holders from the faculty of science operate more in the public sector through public competitive examinations and contractual recruitments. On the contrary, those from the higher training schools are preferentially absorbed into the private sector. However, the transition between training and employment is longer among those from the faculty since they receive much more theoretical training without any professional internship that can bring them in contact with potential employers; meanwhile those from higher schools of professional training acquire direct employment since their training is much more professional and practical. Increasing reflection, therefore, has to be towards assistance to SME (Small and Medium Enterprises) in order to increase their employment capacity of degree holders.

Figure 1: Employment Situation after First Degree



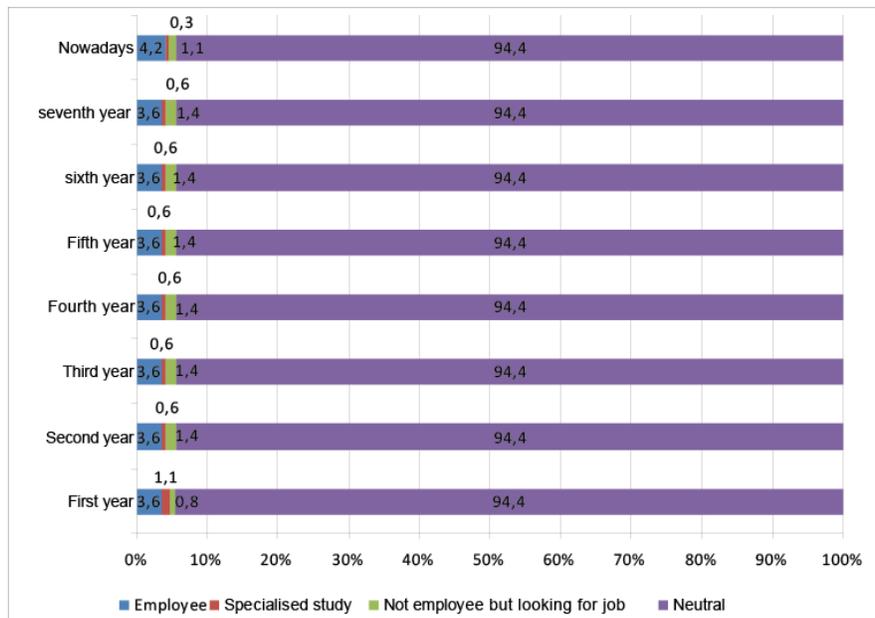
Source: field survey

Figure 2. Employment Situation Second Cycle Certificate



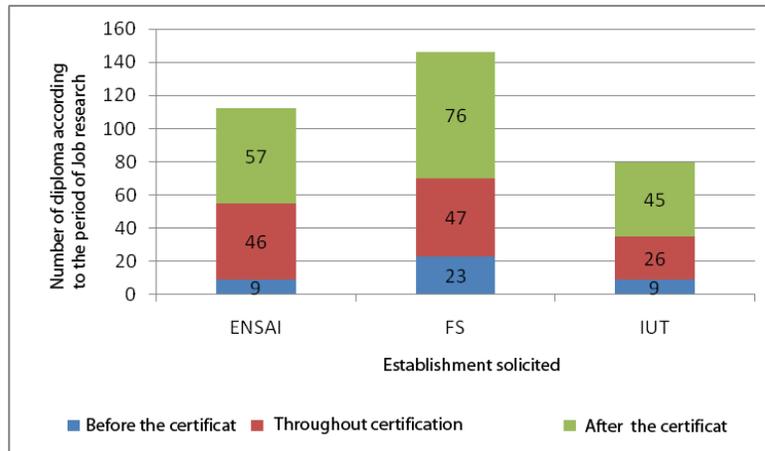
Source: field survey

Figure 3: Employment Situation after PhD Degree



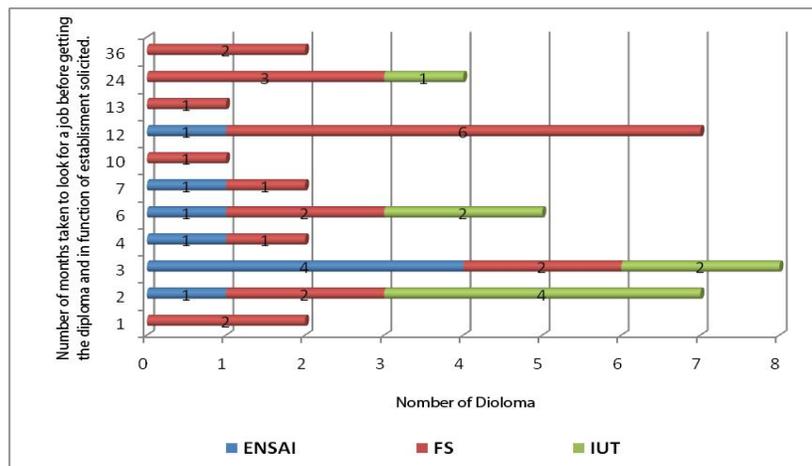
Source: field survey

Figure 4: Time put in Job searching and Establishment Solicited



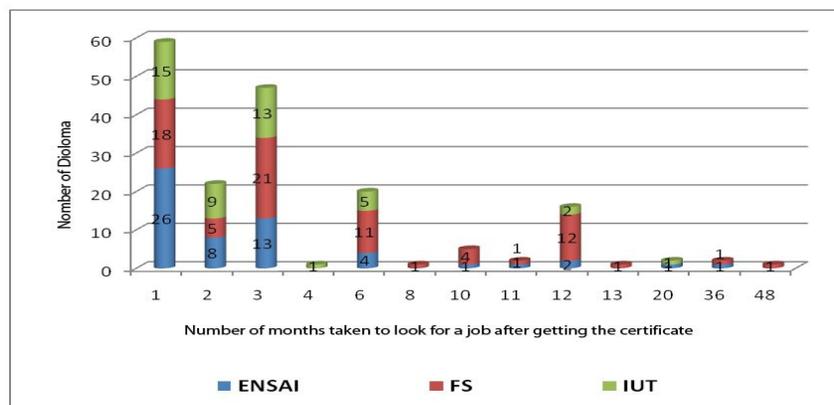
Source: field survey

Figure 5: Number of Months taken to look for a job before Getting the Diploma and in Function of Establishment Solicited



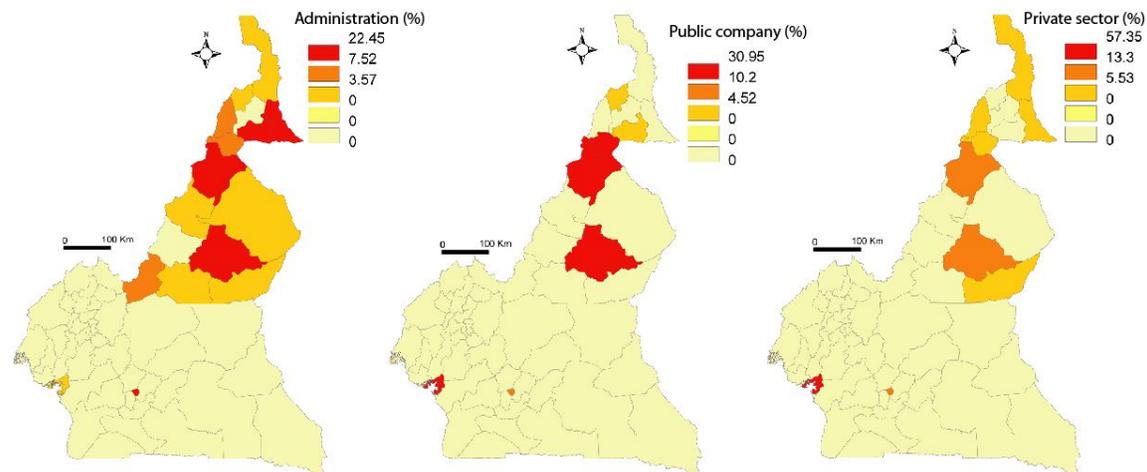
Source: field survey

Figure 6: Number of Months put in Search for a job after and Establishment Solicited



Source: field survey

Figure 7: Place of Integration and Sector of Activity for Degree Holders



Source: Fiel survey realised by: Mediebou,

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