

**HIGHER EDUCATION
DASHBOARD**

2018

MHESR



FOREWORD

For the fifth time, the Higher Education Dashboard is released against the background of a democratic transition and the inauguration of the new President who took office on August 1st, 2019 after being elected on June 22 succeeding President Mohamed Ould Abdelaziz.

In this respect, it is not unnecessary to recall some of the significant accomplishments and reforms of the sub-sector whose impacts become evident over time.

Future generations will discover and retain the tremendous efforts made to ensure:

- The building of the big campus of the University of Nouakchott with its four faculties in addition to a male students hall of residence (2450 places), a female students hall of residence (_____ places), a central university library, a 4000 places university refectory, a mosque, and a number of shops for commerce and services.
- The opening of the Higher Institute for English with more than 15 British teachers specialized in teaching English as a foreign language.
- The consolidation of the process of reform of the Higher Polytechnic School (ESP) which lead five out of its six departments to become currently operational.

In October 2019, the capacities of the ESP have been strengthened by the opening of a Higher Institute of Statistical Trades (ISMS). As per October 2020, the School intends to set up a program for economic statistician engineers, even though nine students of the Higher Preparatory Institute for Engineering Schools (IPGEI) have passed the admission examinations of the African Engineering Schools of Statistics CAPESA (Dakar, Abidjan, Yaoundé).

This year, the results of the IPGEI confirm the excellence of its training as eight students have been nominated laureate of the prestigious French School of X Paris. The students of the MP first-class granted the IPGEI the top position over all the countries with 11 eligible students to X Paris among whom eight were accepted, thus surpassing candidates from Lebanon, Cameroon, Ivory Coast, and Benin (cf. table)

As per 2020, the department hopes to reinforce and consolidate the instruments which have proved helpful in enhancing the quality of teaching and scientific research. The Mauritanian Authority of Quality Control (AMAQES), the National Agency for Scientific Research and Innovation, and the creation of the Body of Research Teachers will increase the excellence and efficiency of our higher education system.

Finally, I would like to express my grateful thanks to all those who have contributed to this collective endeavor.

	Number of candidates	Number of eligible students	Number of students who passed the oral exams	Number of students who passed definitely	Number of students who entered a school from the bank of schools
CNIM	18	17		17	2
CAPESA	19	9		9	1
TUNISIAN EXAMINATION	19	16		16	2
CENTRALE CASA	19	19	19	15	4
MINES DE BENGUERIR	19	18	10	6	1
BECEAS	7	7	1	1	1
CCP	14	12	0	0	0
MINES/PONTS	5	3	0	0	0
POLYTECHNIC SCHOOL OF (X)+affiliated	19	11	11	8	8

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ACRONYMS AND ABBREVIATIONS:

C.E.S : Certificate in Specialized Studies
 CITE : International Standard Classification of Education
 CNOU : National Center for University Services
 CREL : Centre de Renforcement de l'Enseignement des Langues Vivantes
 CSET : Advanced Technical Education Center of Nouakchott
 ENS : Teacher Training College
 ESP : Higher Polytechnic College
 F : Female
 FLSH : Faculty of Arts and Human Sciences
 FM : Faculty of Medecine
 FSJE : Faculté des Sciences Juridiques et Economiques
 FC: Faculty of Sheriaa
 FLASS: Faculty of Arabic Language and Social Sciences
 FOD: Faculty Oussoul Eddine
 IPGEI : Preparatory Institute for Engineering Schools
 ISCAE : Higher Institute of Accounting and Business Administration
 ISERI : Higher Institute of Islamic Studies and Research
 ISET : Higher Institute of Technology
 ISPLTI : Higher Professional Institute for Languages, Translation and Interpretation
 ISSM : Higher Institute of Ocean Sciences
 IUP : Professional University Institute
 LM : Modern Literary Studies
 LMA : Modern Literary Studies, Arabic Track
 LMB : Modern Literary Studies, Bilingual Track
 LO : Classical Literary Studies
 M : Mathematics
 MA : Assistant Professor
 MC : Associate Professor
 MESRS : Ministry of Higher Education and Scientific Research
 NR : Not Documented
 PH : Accredited Research Director
 PHD : Doctor of Philosophy
 PIB : Gross Domestic Product
 Prof1c : Junior Secondary School Teacher
 Prof2c : Senior Secondary School Teacher
 PU : University Professor
 RGPH : General Population and Housing Census
 SN : Natural Sciences
 SNA : Natural Sciences, Arabic Track
 SUP M : Sup' Management :
 T : Total
 TIC : Information and Communication Technology
 TM : Technical Baccalaureate
 UCM : Chinguetti Modern University
 UIL : Lebanese International University

MRU : New Ouguiyas

UNA : University of Nouakchott Al-Asriya

USIA : University of Islamic Studies of Aioun

USTM : University of Sciences, Technologies, and Medecine

Executive Summary

The numbers of students enrolled in higher education have witnessed an increase in 2019, reaching 23417, after their decrease since 2016 following the implementation of the LMD system. This strong increase of the number of students (they were 19844 in 2018) is largely due to the fact that the number of successful candidates in the baccalaureate in 2018 outnumbered that of 2017 twice. The percentage of female students rose from 34.5% to 37.2%. On the other hand, the share of the private sector has decreased (4.38% in 2019 and 4.57% in 2018). Students aged less than 27 years represent 80% (an improvement by 6% in comparison with the year 2016/2017).

The transition rate from secondary to higher education reached 28% between 2016-2017 and 2017-2018.

The range of fields of study is composed as following: 40.3% of students enroll in “social sciences, commerce and law”, followed by the field of “Letters and arts” with 21.3% of the students. The most marginal orientations are found in the fields of agriculture with 0.7%, services with 1.5% and engineering and processing and construction industries with 2.3% of the students.

764 permanent teachers, including 59 female teachers were responsible of the teachings in the public IES for the academic year 2018-2019.

Associate professors represent more than 42% of the teachers. The ration student/teacher in the public sector reaches 30.6 whereas the UNESCO norm is 25 students/teacher.

Furthermore, higher education is characterized by almost free access to studies and a significant allocation of scholarships to students.

The number of beneficiaries of scholarships and aids attains 8040 (35.4% of the total number of students in public establishments for the year 2018-2019).

During the year 2018-2019, 231,167 meals have been served in the restaurants under the authority of the CNOU. The transport of students to the university campus was provided by the rental of 41 buses (29 yellow buses of 75 places each, and 12 green buses of 103 places each).

The number of graduate students of public higher education establishments in 2017-2018 was distributed as follows: 2455 graduates holding a Licence degree including 838 females; 74 engineers including 7 females; 56 doctors including 22 females; and 286 junior high school teachers including 44 females.

Major accomplishments of the academic year 2018

- Creation of the Institute of Mining Trades (IS2M) of Zouerate ;
- Construction of the headquarters of the ISPLTI in Nouadhibou.

In terms of reforms, the following should be mentioned:

- *The increase in higher education teachers' salaries;*
- *Adoption of the studies regime and the conditions for obtaining the national degree of Doctorate in medicine;*
- *The decree creating a body in charge of the implementation of the HCRSI policy (ANR);*
- *Adoption of the study regime and the conditions for obtaining the national engineering degree;*
- *Adoption of the studies regime and the conditions for obtaining national degrees in the LMD system*
- *The creation of the professional Licence degree;*
- *The creation of the university and inter-university degree;*
- *The creation of the National Engineering Examination of Mauritania allowing the access to the engineering programs of the ESP and the AN.*
- *Improved access to higher education*
- *Completion of the equipped male students' hall of residence in 2019, as well as the equipped Distance Learning Center (CED) , the University Presidency (PU) and the Central University Library (BUC);*
- *Concerning the Faculty of Legal and Economic Sciences (FSJE), the completion of the construction of the female students' hall of residents and married students was completed, as well as that of the mosque and the shop, all equipped.*

Challenges

Despite the great efforts recently made to improve the reception conditions, the teaching quality and working conditions of the teaching staff, the major challenge remains that of balancing the higher education sector's offers with the demand of the labor market.

Perspectives***In terms of management:***

Making the structures that were created, such as the AMAQ-ES and the HCRSI, operational and equipping them with the means enabling them to accomplish their missions in terms of improving the relevance and quality of the programs and research.

In terms of infrastructure :

- *Completion of the construction work of all the facilities of the university campus should be achieved by the end of 2019.*
- *The construction work of a new university in Tidjikja is due to start in 2019.*
- *The structuring of the university programs and its decentralization are two other objectives to be achieved.*
- *The research training is the essential link in the development of research; means will be allocated in order to consolidate the doctoral schools.*
- *The training of doctors ought to be carried the highest standards, which requires that doctoral students be able to benefit from means of subsistence and stay conditions in the laboratories, allowing for these objectives to be achieved.*
- *Construction and equipment of a University Hospital Center (CHU)*

In this way, once the National Agency of Research and Innovation is created, it should launch calls for projects based on priority areas fixed by the HCRSI.

Context

Socio-demographic situation

The Islamic Republic of Mauritania is a Sahelian country situated in northwestern Africa. It covers a geographical area of 1,030,700 km² with an extensive Atlantic coastline of 700 km.

In 2013¹, the total Mauritanian population was 3,537,368 inhabitants, with a population density of 3.4. The number of female residents is slightly superior to that of male residents with a masculinity rate of 97 men for 100 women. The urban population represented less than 49%. The demographic growth rate was around 2.8% per year.

I. Socio-economic and demographic indicators

I.1 Demography

In 2019, the population was estimated to 4,077,347 inhabitants with a population density of 3,95. The demographic growth rate was situated around 2.77% per year.

I.1.a Comparison of the growth rate with some countries of the sub-region

Country	Growth of the population (annual %) ²					
	2013	2014	2015	2016	2017	2018
Algeria	2,00	2,03	2,05	2,05	2,04	2,01
Morocco	1,42	1,40	1,37	1,33	1,29	1,25
Mali	2,90	2,90	2,94	2,98	3,00	3,01
Mauritania	2,95	2,93	2,89	2,86	2,82	2,78
Senegal	2,80	2,81	2,81	2,81	2,80	2,78

¹ Final year of the GPHC

² <https://donnees.banquemondiale.org/indicateur/SP.POP.GROW>

Table 1: Growth rates in some countries of the sub-region
 Author's calculations, data origin: indicateurs_pays_v18 (Dakar Pole)

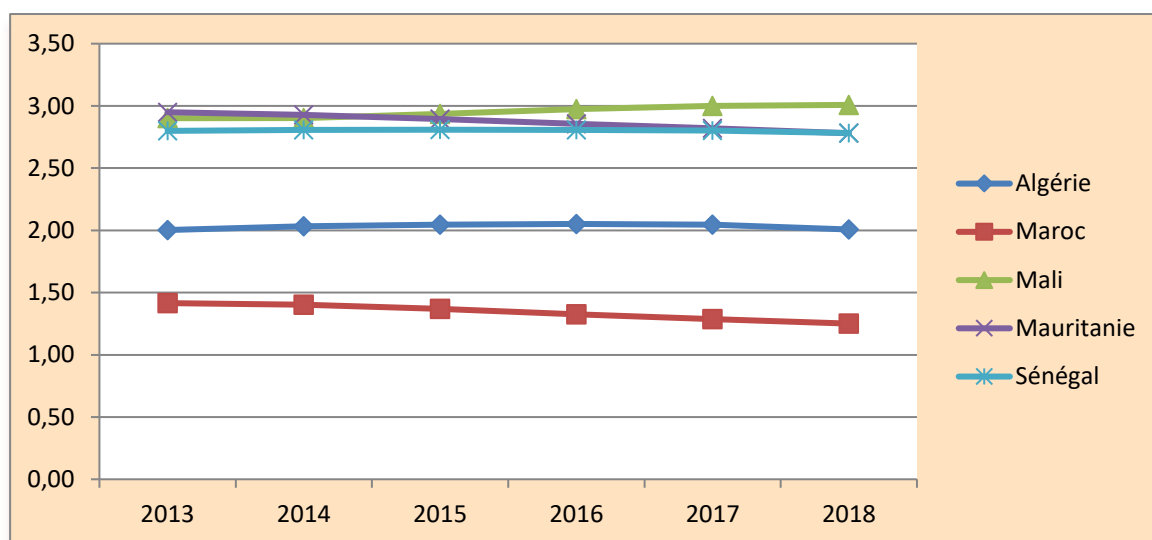


FIGURE 1: GROWTH RATES IN SOME COUNTRIES OF THE SUB-REGION

I.2 Evolution of the Mauritanian economy in 2018³

During the year of 2018, the Government's main objective as defined by the SCAPP consisted of establishing an economic environment enabling the reduction of poverty and the improvement of the populations' living conditions by realizing: (i) a sustained economic growth, within a stable macroeconomic framework; and (ii) sector-specific strategies adapted to the Government's priority programs.

In this context, the authorities intend to pursue macroeconomic policies and structural reforms to achieve, in 2018, an overall real GDP growth rate of 1.6% due to the expected decline in the extractive sector, in particular the cessation of the production of Chinguetti oil deposit. Excluding the extractive sector, the growth is expected to be at 4%. The current account deficit was expected to be at 15.3% of GDP in 2018 compared with 17.9% of GDP in 2017. Additionally, gross reserves were targeted to reach 259 million USD, equivalent to 2.3 months of imports. On the fiscal front, it was expected for the fiscal deficit (excluding grants) to stand at 2.9% of the GDP, excluding the extractive sector, and for the inflation rate to be maintained at 5.3%.

The assessment of the year 2018 paints a more favorable picture than the program, which was particularly due to an unexpected recovery in the mining sector and a revival of economic activity outside the extractive sector. As a result, in 2018, this situation made it possible to achieve an overall real GDP growth rate of 3.6% despite the cessation of the production of the Chinguetti oil deposit. Excluding the extractive sector, the growth was 6.3%. However, the current account deficit worsened by decreasing to 18.4% of GDP but was nevertheless financed by an increase in Foreign Direct Investment (FDI) of nearly 48%,

³ ACTION PLANS IMPLEMENTATION REPORT OF THE 2018 STRATEGY OF ACCELERATED GROWTH AND SHARED PROSPERITY

induced by gas exploration and financial flows from the extractive sectors. Thus, gross reserves reached 919 million USD, equivalent to 5 months of imports. On the fiscal front, the recovery in government revenue resulting from the revival of the economic activity and expenditure control led to a budget surplus, excluding grants, equivalent to 3% of GDP excluding the extractive sector, and the inflation rate was kept under control at 3.1%, in line with a prudent monetary policy.

I.2 .a. Economic growth

The sectoral achievements of the economic situation in 2018 are part of the continuation of the economic revival that began in 2017. Real economic growth remained sustained at +3.6%, compared with +3.1% in 2017, after +1.8% in 2016.

In spite of the underperformance observed by SNIM and the manufacturing industries in particular, this growth was mainly driven by (i) a favourable momentum in the construction sector through the continuation of infrastructure projects; (iii) the good performance of the agriculture and livestock sub-sectors, in connection with good rainfall and the development of irrigation; (iv) the intensification of the fishing sub-sector activity; (v) the extension of the productive base of TASIAST, which should substantially increase gold production; and (vi) the improvement of private service activities (Transport, Telecommunications, etc.).

At sectoral level, the economic growth in 2018 resulted from the activities evolutions described below.

◆ Primary sector

The primary sector (Agriculture, Farming, Fishing) has been a significant determinant in the structure of GDP, with a weight of 29.4%, while playing its role in terms of job creation and poverty reduction, particularly in rural areas.

In 2018, this sector recorded a growth rate of +7.2% after having achieved less sustained results in 2017 (4.1%). This dynamic was largely due to the exceptional results recorded during the agricultural campaign, the resurgence of activity in the fishing sub-sector and a good performance in farming in connection with good rainfall.

Agriculture: Overall, gross rice production (all seasons) is expected to reach 328,969 tons, an increase of 30.7% compared to 2017, thereby increasing the added value of agriculture to 28.7% in 2018.

Livestock: With a real growth of 2% in 2018, the livestock sector performed fairly well during the hunger season of 2018, induced by the pasture deficit observed in 2017, thanks to strong expenditures on livestock feed and improved animal health, which considerably supported the maintenance of livestock stocks, in addition to exceptional rainfall in the country's agropastoral areas.

Fishing: Despite a decline in quantities of nearly 20%, the value of exports of fish products recorded an increase of +52.2% at the end of December 2018 compared to 2017, thanks in particular to the good performance of the market value of cephalopods (+16.2%) whose price increase is +44.3%, this species having represented more than 34% of the market value of the fishing sector over the period. Overall, the quantities exported have evolved by nearly 27% over 12 months in 2018, under the effect of the stimulation of exports of various products, as well as the fishmeal component, despite the sharp decline

of 61.3% observed on pelagic products. Thus, the real added value of fishing increases in 2018 by +12.7% in real terms and +78.7% in nominal terms.

◆ Secondary sector

In 2018, the secondary sector accounted for 22.7% of GDP formation against an average of nearly 28% over the last ten years, due to the bearish profile recorded by the extractive sector as of 2015 and the closure of the Chinguetti oil field in 2018. As for its real economic growth, it has dropped sharply to -8.6%, due in particular to the significant decline of around 19% recorded by the extractive sector.

Indeed, in 2018, SNIM's production amounted to 10,709 million tons, compared to 11,813 million tons for the same period in 2017, marking a clear decrease of 9.3%, due to the high costs of earthworks and ore reprocessing. As for the exported quantities, they slightly decreased over the period (-3.2%) to 11,270 million tons. Despite the decline in exports, the value of the Company's foreign exchange earnings increased slightly by 1.2% compared to the same period in 2017, to nearly US\$502 million, in line with the 4.5% increase in ore prices.

The completion of the first phase of the expansion of the capacity of the TASIAST plant, for an investment of 300 million USD, allowed a production of 250,965 ounces of gold at the end of December 2018 compared to 243,240 ounces for the same period in 2017, an increase of 3.2%. The Company's exports increased by 3% to 243,241 ounces, combined with a good performance of the gold prices over the period (+2.2%), allowing the company's foreign exchange earnings to increase by 5.2% and reach USD 313 million.

MCM's copper and gold production have decreased by 2.3% and 6.6% respectively, but the good performance of copper (+4.5%) and gold (+1.4%) prices over the period helped increase the Company's overall foreign currency earnings to nearly 201 million USD, marking an increase of 4.5% compared to the same period in 2017. In addition, the beginning of the Company's iron ore operations in 2018 resulted in an iron ore production of 391,267 tons, of which 251,222 tons, or nearly 90% of this production, were exported to China and Mexico, for foreign exchange earnings of approximately 17 million USD.

The real value added of the construction sector increased by +6.7% and 9.9% in nominal terms in 2018, as a result of road infrastructure works and strong demand from cement plants.

Concerning the manufacturing sector, a slight decline reflected by the industrial production index (IPI) has marked a drop of 10.5% in the third quarter of 2018 compared with the same period in 2017, mainly resulting from the underperformance of food production (-13.2%), driven by the processing activity of fish products, which decreased by 19.1% over the period. On the other hand, the production of electricity and water increased over the period, in line with the improved supply capacities of SOMELEC and SNDE.

◆ The sector of services

Comprising the sub-sectors of Transports and Telecommunication, Trade, Restaurants, Hotels, Public Administrations and other private services (banks, insurance and other service providers), the services sector has contributed 38.7% to the GDP structure, thus indicating a tertiarization of the economy.

In 2018, the sector has known a real growth of 8.4%, compared to 3.4% in 2017, due to the performances recorded in all its components: 19.4% in the transports and telecommunication sub-sector; 6.6% in trade, restaurants and hotels; 3% in banking and insurance services; and 2.4% in public administrations.

I.2 .b. Public finances

Budget execution in 2018 resulted in a good mobilization of government revenue, excluding grants and oil, which reached 49.26 billion MRU, an increase of 7.7% compared to 2017. Despite the decline in non-tax revenue (-3%), due to the drop in mining revenue (-3.8%) and access rights for bottom fishing in its national component (-14.3%), resource mobilization was mainly sustained by the good performance of tax revenue which increased by 12.2% to 36.2 billion MRU in 2018.

Taking into account oil revenues and grants, government revenue registered an increase of 15% in 2018 reaching 56.7 billion MRU, despite the decline of around 29% observed in grants, mainly due to the 82% decline in the budget support component. As for oil revenues, they strongly supported the public revenue mobilization, amounting to 6.3 billion MRU, compared to only 1.9 billion MRU in 2017.

As for public expenditures, they reached 50.6 billion MRU in 2018, marking a slight increase of 2.5% compared to 2017, thus reflecting a controlled fiscal policy over the period. **In fact**, government spending on goods and services and interest on domestic debt have decreased by 0.5% and 4.4% respectively, thus limiting the State's lifestyle. The level of increase in public spending was therefore essentially the result of its good orientation in favor of spending, aiming to improve the living conditions of the population. **In fact**, domestically financed capital expenditure, which accounted for nearly 85% of the state investment budget in 2018, including a large component in social spending, increased by 15.2% in 2018. At the same time, current transfers increased by 9.4% to 6 billion MRU in 2018.

This good expenditure control, combined with the increase in revenues, has resulted in a significant improvement of the budget deficit (excluding grants and oil), which represented -0.8% of non-extractive GDP in 2018, compared to -2.4% of the GDP in 2017.

I.2 .c. Foreign trade

Mauritania's external position deteriorated in 2018, given the bearish profile of extractive industry output, which was not sufficiently contained by the recovery in prices, with extractive sector exports growing by only 1.6% compared to 2017. This factor was combined with unfavorable terms of trade, strongly induced by the 23% boost in imports of goods. As a result, despite the strong stimulation of fishing exports (+20%), the trade balance of the payment balance has significantly deteriorated in 2018, reaching a 13.6% deficit of GDP against 7.5% in 2017. This situation was mainly due to the rise in the oil bill, which stimulated imports of oil products, which rose by more than 40% in 2018 to nearly 624 million USD.

This situation, combined with the deterioration of the services and income balance (-28.8%), as well as that of the transfer account (-21.9%), in connection to the significant reduction in budget support, resulted in a worsening of the current account deficit, which represented 18.4% of the GDP in 2018, compared to 14.3% in 2017.

Nevertheless, the financing of the current account has been achieved through an increase of around 48% in Foreign Direct Investments (FDI), induced by gas exploration and financial flows of the extractive sectors. This strong FDI inflow clearly compensated for the decline (-7.2%) in official loans to finance investments in the medium and long term.

As a result, the gross official exchange reserves that amounted to 849 million USD in 2017, have reached 919 million USD in 2018, respectively equivalent to 4.6 and 5 months of imports.

I.2 .d. Currency and prices

The monetary policy remained prudent and focused on controlling inflation, despite the inflationary pressures that emerged during 2018. In fact, as measured by the National Consumer Price Index (NCPI), inflation picked up sharply to a year-on-year rate of 3.2% in 2018, compared to only 1.2% in 2017. This situation was mainly due to the inflationary pressures observed on food prices (51% of the price basket) which rose sharply year-on-year by 4.9% over the same period in 2017.

As an annual average, inflation stood at 3.1% at the end of December 2018 compared with 2.3% over the same period in 2017, which represents a moderate increase.

The money stock grew by 13.8% to 71 billion MRU, which is almost the same growth rate that was recorded in 2017. This dynamic of the money stock was essentially the result of: (i) a strong increase in net foreign assets, which reached 10 billion MRU in 2018 compared to only 7 billion MRU in 2017, due in particular to the monetary authorities' accumulation of gross revenues; and (ii) an increase in credit to the economy which amounted to 67.1 billion MRU, representing a 19% increase in comparison to 2017, as a result of bank loans in the main sectors of economic activity.

I.2.e Comparison with some countries of the sub-region

	GDP growth rate (annual %) ⁴						
	2012	2013	2014	2015	2016	2017	2018
Algeria	3,37	2,77	3,79	3,76	3,30	1,60	2,10
Morocco	3,01	4,54	2,67	4,54	1,13	4,09	2,95
Mali	-0,84	2,30	7,04	5,96	5,80	5,40	4,90
Mauritania	5,80	6,09	5,58	1,40	2,00	3,03	3,60
Senegal	5,12	2,82	6,61	6,37	6,36	7,08	6,77

TABLE 2: GDP Growth Rate in some countries of the sub-region

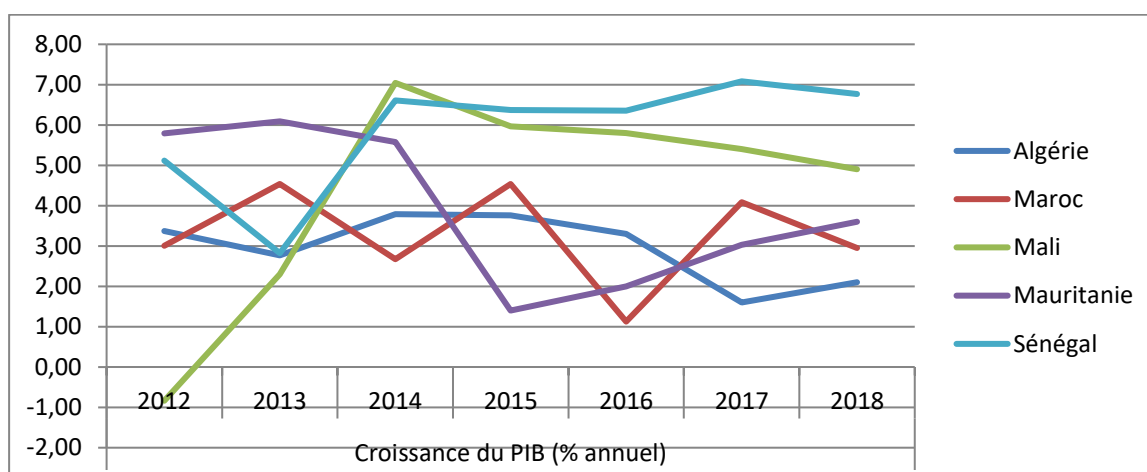


FIGURE 2: GROSS DOMESTIC PRODUCTS AT CURRENT PRICES IN MILLIONS OF DOLLARS (US)

I.2.f Human Development Index (IDH)

The IDH in Mauritania moved from 0.347 in 1980 to 0.513 in 2015. The country's ranking has gone from the 161st place in 2013 to the 157th in 2015.

IDH Comparison (value and rank) between some countries of the sub-region

	Algeria	Mali	Mauritania	Morocco	Senegal
IDH	0.745	0.442	0.513	0.647	0.494
Rank	83	175	157	123	162

TABLE 3: Value and Rank in the IDH classification

Source : 2016 Human Development Report (UNDP)

⁴ <https://donnees.banquemondiale.org/indicateur/NY.GDP.MKTP.CD?locations=MR>

I.3 Expenditures allocated to education

I.3.a Public expenditures on education (Percentage of GDP)⁵

Country	Year	% of GDP
South Africa	2018	6,2
Algeria	2008	4,3
Germany	2016	4,8
Canada	2011	5,3
China	1999	1,9
Ivory Coast	2017	5,1
France	2016	5,4
Japan	2014	3,6
Jordan	2017	3,6
Mali	2016	3,1
Morocco	2009	5,3
Mauritania	2016	2,6
Sweden	2016	7,7
Switzerland	2016	5,1
Tunisia	2015	6,6

TABLE 4: PUBLIC EXPENDITURE ON EDUCATION (PERCENTAGE OF GDP)

I.3.b The share of current expenditures allocated to education, excluding the state's debt (%)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2017	2018	Year of the most recent data	The most recent data
Benin	23,9	22,3	22,1	28,4	31,1							2010	31,1
The Gambia	16	19,2	17,2	17,8	20,1	19,3	20,1					2012	20,1
Guinea									15,4			2014	15,4
Bissau Guinea	11,5	14,4	10,5	10,5	11,5	12,5	10,8	13				2013	13
Mali	29	27,9	28,7		23,7	25,9						2011	25,9
Mauritania	14,6	19,6	18,4	20,2	20,2	18,3	15,4	18,6	18,9	18,9%	12,6%	2018	12,6
Morocco	25,7	24,9	22,3	26,6	26							2010	26
Senegal	39,6	41	41,1		41,3	33,7	36,8	35,3				2013	35,3
Sudan	10,2	11,2	13,2	12								2009	12
South Sudan				7,1			5,2	5,4	5,5			2014	5,5
Tunisia		34,6										2007	34,6

TABLE 5: THE SHARE OF CURRENT EXPENDITURES ALLOCATED TO EDUCATION, EXCLUDING THE STATE'S DEBT (%)

⁵ <https://donnees.banquemondiale.org/indicateur/SE.XPD.TOTL.GD.ZS>

I.3.c The shares of public current expenditures on education allocated to higher education by 22 African countries

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Benin							19,7	20,0	17,1	22,0	16,8					21,6			
Burkina Faso							22,4				19,9	17,9	17,4	18,0					
Burundi	27,6	25,3	25,4	24,8	27,5	22,6		19,9			18,3		20,9		20,7				
Chad	17,3	17,7	13,2	16,4	19,0	25,1	21,4	22,6	21,1	18,4	22,5	15,8	20,0	25,8					
Ivory Coast	16,0							20,9						21,1					
Democratic Republic of the Congo						26,2							28,9	26,4					
Egypt			38,9																
Gambia	3,3									8,6	14,8	10,1	10,8	10,1					
Ghana						18,0		20,8	19,0	21,1	22,9	11,6	19,1	20,2					
Guinea	26,0			24,8		26,4	32,0				35,0	43,2	35,0	35,0	38,0	38,0	42,3		
Madagascar			17,8	14,5	16,6	15,8	14,4								21,5				
Mali	15,7	18,0	17,9	15,8	16,3	15,6	14,3		17,6				20,5			21,5			
Mauritania	19,5	16,0	13,7	13,9	13,5				16,8						13,3		13,2	14,1	19,9
Mauritius	14,1			16,6	16,0	13,9	12,9		10,2	11,0	9,9	8,4	8,4	8,1	6,0				
Morocco	17,4	17,2	15,8	15,2	14,7	16,3					17,8								
Niger			13,1						10,3	11,8	12,5	13,7	16,9	17,8	16,3				
Senegal	28,6	29,2	28,3	26,5	27,7	26,3	24,8	27,8	22,7		27,0	25,0	27,0	24,0					
South Africa	16,6	16,0	15,9	15,6	15,4	17,0	14,6	15,5	15,8	15,5		12,1	12,5		12,7				
Sudan										30,0							20,4		
Togo	19,0	16,6	17,1	15,6	17,1	18,1	21,0	20,3				17,7	19,4	22,1	20,6			17,7	
Tunisia	18,8		19,4	21,6	22,8	22,3					24,0								
Uganda		10,4			11,4				12,3	11,2	11,9	10,0	11,8	12,1	16,3				-

TABLE 6: THE SHARES OF PUBLIC CURRENT EXPENDITURES ON EDUCATION ALLOCATED TO HIGHER EDUCATION BY 22 AFRICAN COUNTRIES

(These data are extracted from the Pole de Dakar 2020 database except those concerning Mauritania from 2016 to 2018)

I.4 The shares of Ministries in charge of education in the state's 2016-2018 current expenditures

Ministries	MESRS	MEN	MASEF	MEFPNT	Current Expenditures on Education
2016	1,38%	8,07%	0,38%	0,61%	10,44%
2017	2,7%	14,4%	0,7%	1,1%	18,9%
2018	2,9%	15,2%	0,7%	1,1%	19,9%

TABLE 7: THE SHARES OF MINISTRIES IN CHARGE OF EDUCATION IN THE STATE'S 2016-2018 CURRENT EXPENDITURES

I.5 Distribution of the 2016-2018 current expenditures allocated to education

Ministries	MESRS	MEN	MASEF	MEFPNT	Current Expenditures on Education
2016	13,18%	77,30%	3,65%	5,87%	100%
2017	14.1%	76.2%	3.8%	5.9%	100%
2018	14,7%	76,2%	3,6%	5,5%	100%

TABLE 8: DISTRIBUTION OF THE 2016-2018 CURRENT EXPENDITURES ALLOCATED TO EDUCATION

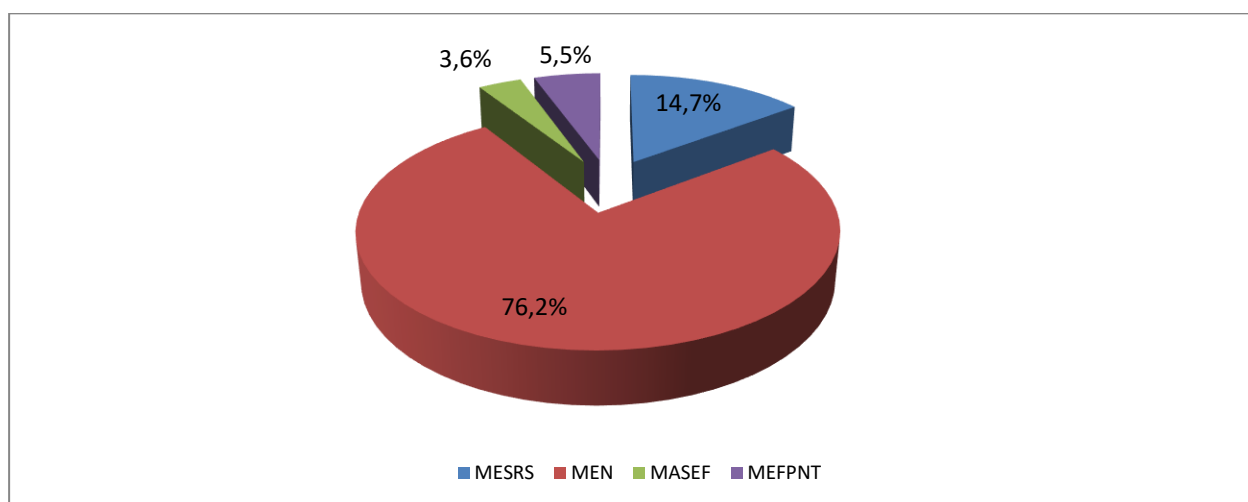


FIGURE 3: DISTRIBUTION OF THE 2018 CURRENT EXPENDITURES ALLOCATED TO EDUCATION

Global comparison of the share of higher education in the current expenditures on education (in %; in countries where the GDP per inhabitant ranges from 700 to 1,800 USD):

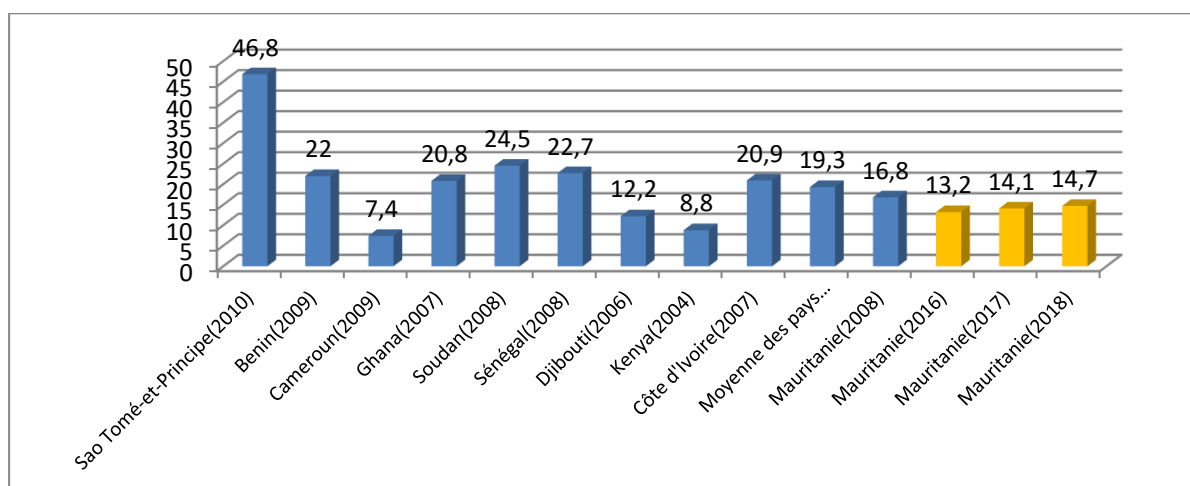


FIGURE 4: THE SHARE OF HIGHER EDUCATION IN THE CURRENT EXPENDITURES ON EDUCATION (IN % ; IN COUNTRIES WHERE THE GDP PER INHABITANT RANGES FROM 700 TO 1,800 USD)

Source: RESEN Sao Tome-and-Principe 2014, DSP Mauritania

II. Access and enrolment

During the last few years pre-university trainings have developed at a high speed as an increasing number of pupils complete primary and secondary education. This progress triggers automatically an increase in the demand for higher education.

Data show that the number of higher education students in Mauritania has increased significantly since it moved from 14,368 students in the public institutions in 2007-2008 to 19,843 students in 2017-2018, and from 331 to 907 in the private institutions during the same period.

The number of students for 100,000 inhabitants moved from 434 in 2010 to 505 in 2017. The transition rate from secondary to higher education is 30%.

II.1. Gross Admission Rate (TBA)

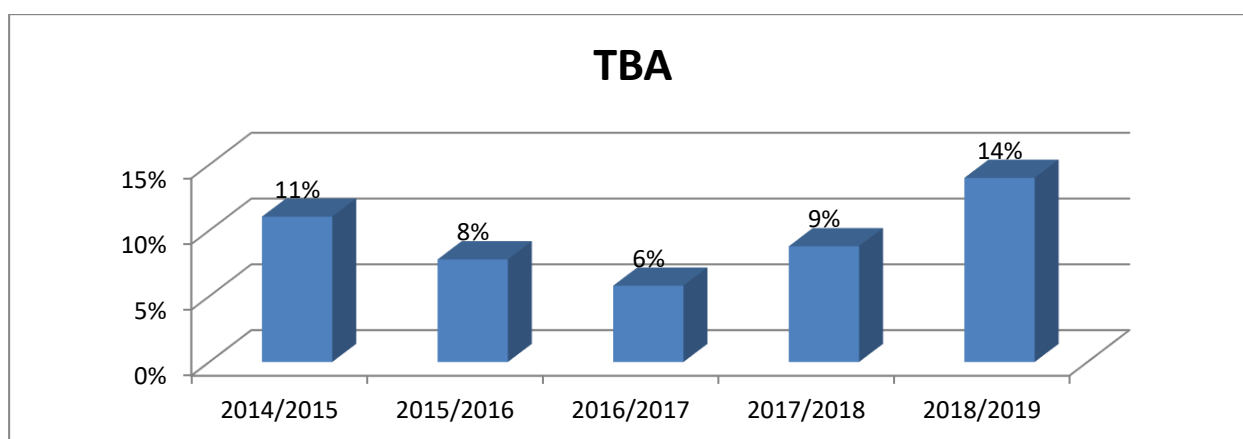


FIGURE 5 : GROSS ADMISSION RATE (TBA)

The Gross Admission Rate corresponds to the number of new students enrolled in first year in higher education establishments without taking age into account, expressed in percentage of the population having the official higher education entry age.

II.2. Net Intake Rate in higher education (TNA)

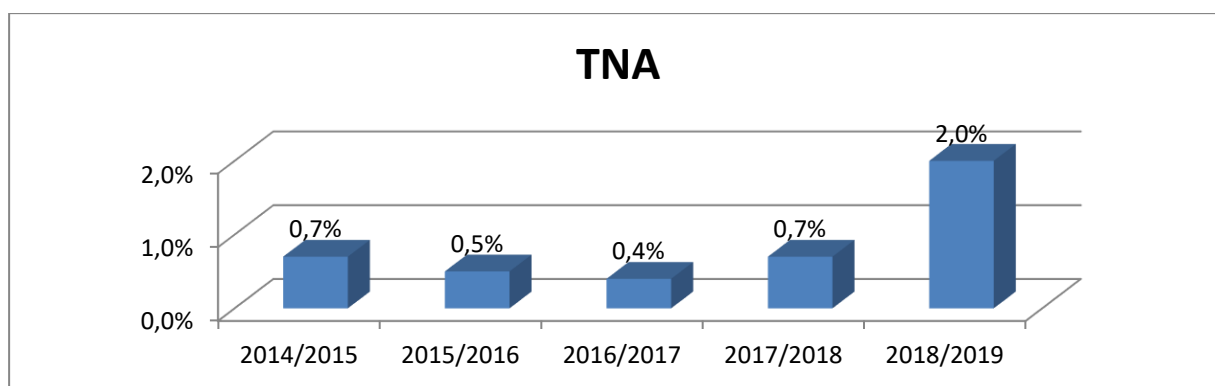


FIGURE 6 : NET INTAKE RATE IN HIGHER EDUCATION (TNA)

The Net Intake Rate in higher education is defined as follows: the total number of new students enrolled in first year in higher education establishments having the official higher education entry age, expressed in percentage of the population of the same age.

Comment: The decrease of the Intake Rate between 2014 and 2016 is justified by the measures undertaken by the MHESR, especially the introduction of the LMD standards (complying with the maximum duration for earning a diploma). A recovery in the TNA growth is noticed in 2017-2018.

II.3. Number of higher education students for 100,000 inhabitants during the academic year 2018/2019

The number of higher education students in Africa has experienced a rapid average annual growth by 8.3% moving from 2.6 to 8.6 million students from 1990 to 2006. In Francophone countries the number of students increased more than twice during the same period as they moved from 164 to 392 students for 100,000 inhabitants (1).

In addition to the demographic growth, the progress in the numbers of higher education students is justified by a policy of universal enrolment in primary education and an increase in the completion rates in secondary education. Using the number of students for 100,000 inhabitants as an indicator, it is noticed that it moved from 434 (2) in 2010 to 505 in 2017/2018 in Mauritania, whereas access to higher education in the UEMOA countries was around 590 in 2006 representing 0.59% of the population remaining below the UNESCO standards which set that 2% of a country's population should access higher education. These data demonstrate the extent of the efforts that must be made in order to secure more access of young people to higher education notwithstanding the rapid progress experienced during the last few years. The figure below outlines a comparison of the values of this indicator in the sub-region.

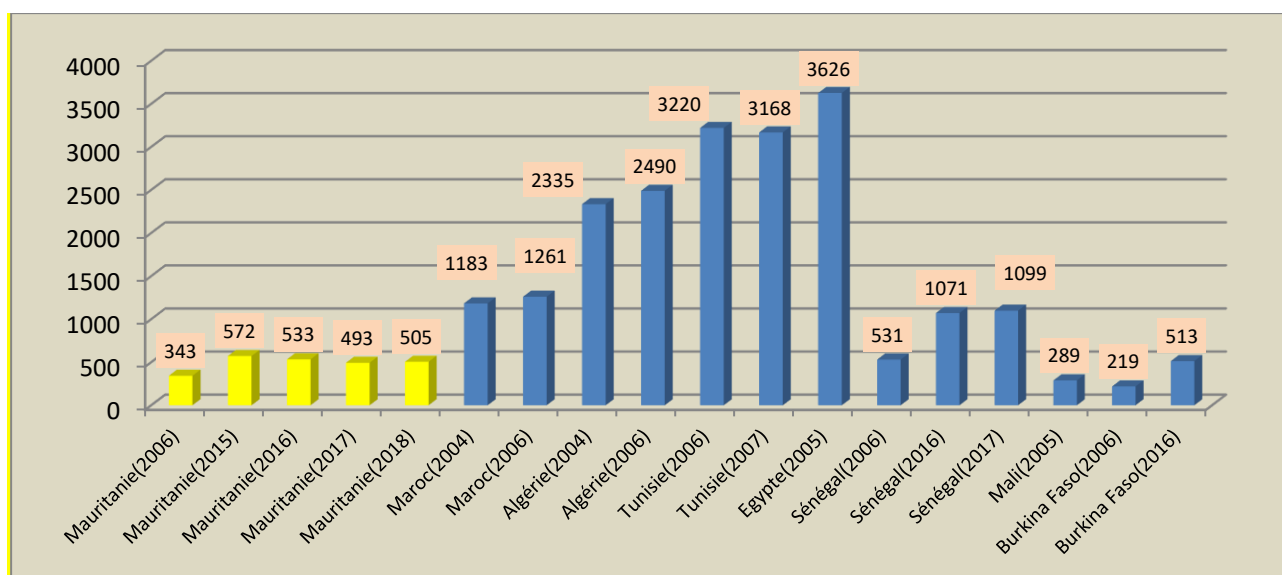


FIGURE 7: COMPARISON OF THE NUMBER OF HIGHER EDUCATION STUDENTS FOR 100,000 INHABITANTS WITH SOME COUNTRIES

NB: It should be noticed that this indicator (number of higher education students for 100,000 inhabitants) concerns all the students at every level and in all the higher education training programs. In principle, it includes all the students enrolled in the national territory regardless of their nationality or origin, in exception, however, of nationals enrolled abroad or in an establishment abroad but depending on the national educational system. The value of this indicator demonstrates the extent of the efforts that must be made to meet the international standards (2000 students for 100,000 inhabitants).

II.4. Secondary-Higher education Transition Rates (TT)

2014/2015			2015/2016			2016/2017			2017-2018	2018/2019
Transition rate			Transition rate			Transition rate			Transition rate	Parity Index
M	F	T	M	F	T	M	F	T	T	T
40%	24%	33%	39%	25%	33%	39%	19.3%	30%	30%	27%
0,61			0,64			0.5				

TABLE 9: SECONDARY-HIGHER EDUCATION TRANSITION RATES

Comment: the secondary-higher transition rate between the school year 2017/2018 and the school year 2018/2019 was 27%. This shows a decrease by 3 percentage points in relation to the preceding year.

II.5. OVERALL INTAKE RATES IN HIGHER EDUCATION (TAGSUP)

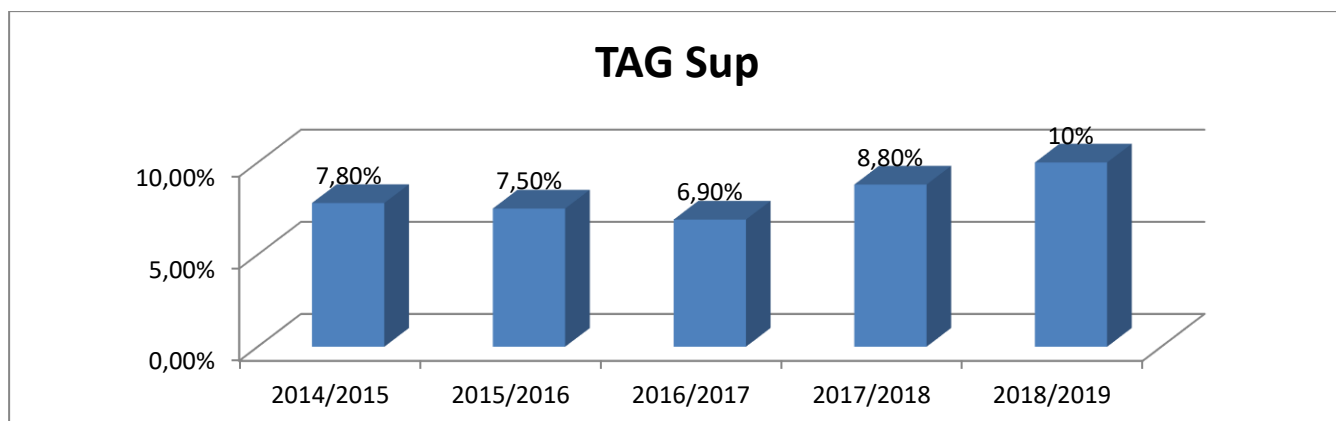


FIGURE 8: OVERALL INTAKE RATES IN HIGHER EDUCATION (TAGSUP)

The TAGSUP is defined as follows: New students enrolled in first year of higher education establishments in year n , expressed in percentage of the population aged 18 (year $n-1$). It allows prospective analyses of the pressure that independent or concomitant developments marking the completion of secondary education can exert on higher education, the baccalaureate pass rate and the rate of transition to higher education. There has been a marked improvement (by 2%).

II.6. Gross Enrolment Ratio in Licence (TBS)

In 2009, the gross enrolment ratio (TBS) in higher education in Francophone Africa did not exceed 11% as opposed to a global average of 27% and a rate of 70% for North America and Western Europe.

This low higher education intake ratio in Francophone Africa conceals big disparities. With intake ratios of 34% and 31% respectively, Tunisia and Algeria are the only countries in Francophone Africa where enrolment in post Baccalaureate education exceeds the global average.

In contrast, this ratio falls around an average of 6.3% in the UEMOA countries. In some African countries such as Chad, Central African Republic, and Niger higher education remains still embryonic with intake ratios of 2%, 2%, and 1% respectively**.

The comparison of gross enrolment ratios (TBS) and second cycle completion rates in secondary education with higher education completion rates reveals a strong pressure on higher education needs. In Mauritania, the gross enrolment ratio in the second cycle of secondary education was six (6) times higher than that of higher education in 2009; the completion rate of secondary education was nine (9) times higher than the gross intake ratio in higher education for the same year. However, the gross enrolment ratio in the second cycle of secondary education was two (2) times higher than that of higher education in 2015; the completion rate of secondary education was two (2) times higher than the gross enrolment ratio in higher education for the same year.

By comparison, the gross enrolment ratio in the second cycle of secondary education is four (4) times higher than that of higher education in Togo. In Burkina Faso, the completion rate of secondary education

is three (3) times higher than the gross enrolment ratio in higher education. This ratio reaches 4.7 on an Africa-wide scale in spite of a TBS of just 23%**.

(*) Source: MESRS/MAURITANIE

(**) Source: National Dialogue on the future of higher education in Senegal

II.6.a. Gross Enrolment Ratios in some African countries

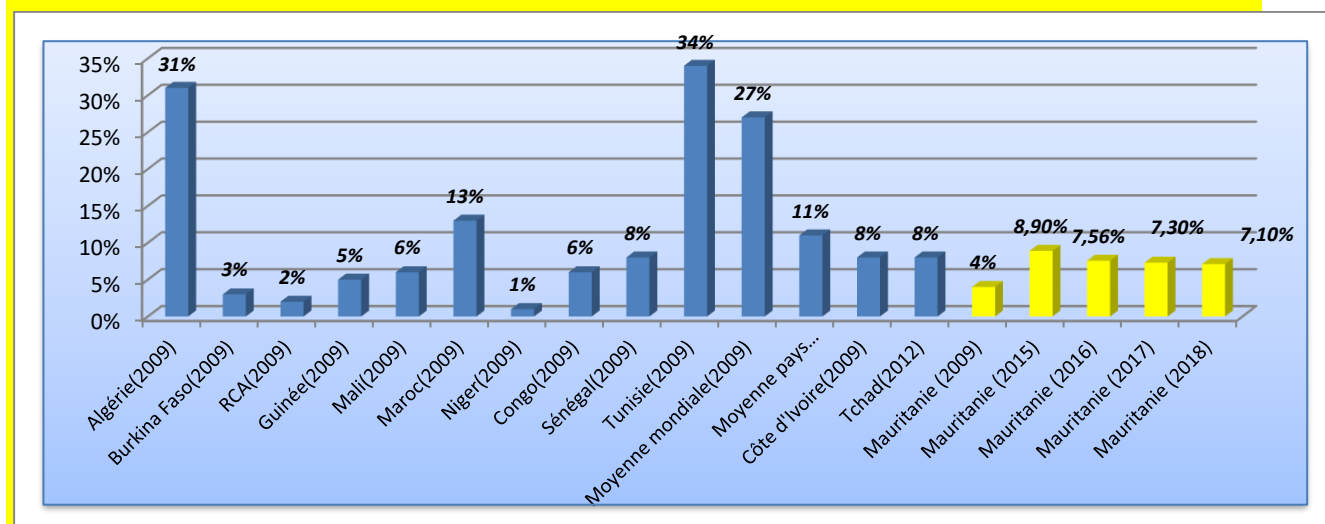


FIGURE 9: GROSS ENROLMENT RATE

Source: Dakar Pole, UNESCO-BREDA, Statistical Yearbook of Higher Education in Mauritania 2015-2016

II.6.b Higher education gross enrolment ratios in Francophone Africa in 2009

Country	Gross Enrolment Ratio in Licence (in %)	Secondary education completion rates /TBS in higher education	TBS in secondary education/ TBS in higher education	Student/ teacher ratio
Mauritania (2018)	7.1			26
Mauritania (2017)	7.3			28
Mauritania (2016)	7.6	-	-	28
Mauritania (2015)	9%	2,27	2,47	28
Mauritania (2009)	4%	9,43	6,33	33,8 (2006)
Benin (2009)	6%	1,8	3,0	
Cameroon (2009)	9%	1,4	2,7	31,2 (2006)
Chad (2012)	2%			9,5 (2006)
Ivory Coast (2009)	8%	1,5	1,9	
Tunisia (2009)	34%			
Algeria (2009)	31%			
Morocco (2009)	13%			
Mali (2009)	6%	1,2	2,0	32,9 (2006)
Congo (2009)	6%			
DRC (2009)	6%			
Togo (2009)	5%	1,8	4,0	
Guinea (2009)	5%	1,3	3,3	29 (2006)
Burkina Faso (2009)	3%	3,0	3,5	29 (2006)
CAR (2009)	2%			
Niger (2009)	1%	2,0	3,0	10,4 (2006)
Senegal (2009)	8%			
The average of comparator countries*	9%	1,8	2,9	25,5

TABLE 10: HIGHER EDUCATION ENROLMENT RATIOS IN FRANCOPHONE AFRICA IN 2009

Source: Dakar Pole, UNESCO-BREDA. World Bank. UNESCO. Performance analyses Consulting, 2011

II.6.c The situation of education and trainings in developing countries

	TBS Evolution in the second cycle of general secondary education (%)		TBS Evolution in higher education (%)	
	1999	2010	1999	2010
Sub-Saharan Africa	19	31	3	7
South and West Asia	31	47	6	17
Arab States	46	49	20	24
Developing countries		53		18

TABLE 11: THE SITUATION OF EDUCATION AND TRAININGS IN DEVELOPING COUNTRIES

Source: HIGHER EDUCATION REFORMS IN AFRICA: ELEMENTS OF THE GENERAL FRAMEWORK

II.6.d Gross Enrolment Ratio in Licence

Row labels	Private	Public		Grand Total	19-21 years Population	TBS	Parity index
		Schools	Universities and institutes				
Females	154	208	5439	5801	118282	4,9%	0,5
1A	59	104	2616	2779			
2A	51	96	1483	1630			
3A	44	8	1340	1392			
Males	284	1063	9445	10792	114493	9,4%	
1A	144	452	4476	5072			
2A	79	544	2599	3222			
3A	61	67	2370	2498			
Global	438	1271	14884	16593	232775	7,1%	
1A	203	556	7092	7851			
2A	130	640	4082	4852			
3A	105	75	3710	3890			

TABLE 12: GROSS ENROLMENT RATIOS IN LICENCE

❖ Evolution of the TBS

Year	Gender	TBS	Parity index
2014/2015	Global	8,90%	0.49
	Females	5,90%	
	Males	12,20%	
2015/2016	Global	7,57%	0.48
	Females	4,97%	
	Males	10,37%	
2016/2017	Global	7.3%	
	Females		
	Males		
2017/2018	Global	7.1%	0.5
	Females	4.9%	
	Males	9.4%	
2018/2019	Global	7.96%	0.61
	Females	6.1%	
	Males	9.9%	

TABLE 13: EVOLUTION OF THE TBS

Comments:

The table above shows an improvement of the parity index and a drop of the TBS. For every 100 Licence-aged individuals correspond only seven (7) of all ages who actually are in that higher education level.

- For every 100 Licence-aged male individuals correspond only nine (9) of all ages who actually are in that higher education level.
- For every 100 Licence-aged female individuals correspond only five (5) of all ages who actually are in that higher education level.

II.7. Mauritanian scholarship students abroad

II.7.a Mauritanian students holders of scholarships abroad by cycle and host country

	C1		C2		C3		Total	
	T	F	T	F	T	F	T	F
Algeria	41	9	55	5	5		101	14
Germany	1						1	0
Canada	1		2	1			3	1
China					1		1	0
Ivory Coast	1		1	1			2	1
Egypt	11	2	6	3	4	1	21	6

France	20	4	33	4	14	1	67	9
Mali			2				2	0
Morocco	123	24	162	26	127	21	412	71
Senegal	53	19	74	18	100	30	227	67
Sudan	9		2	1			11	1
Tunisia	106	18	139	33	40	6	285	57
Turkey			1	1	2		3	1
Grand Total	366	76	477	93	293	59	1136	228

TABLE 14: MAURITANIAN STUDENTS HOLDERS OF SCHOLARSHIPS ABROAD BY CYCLE AND HOST COUNTRY

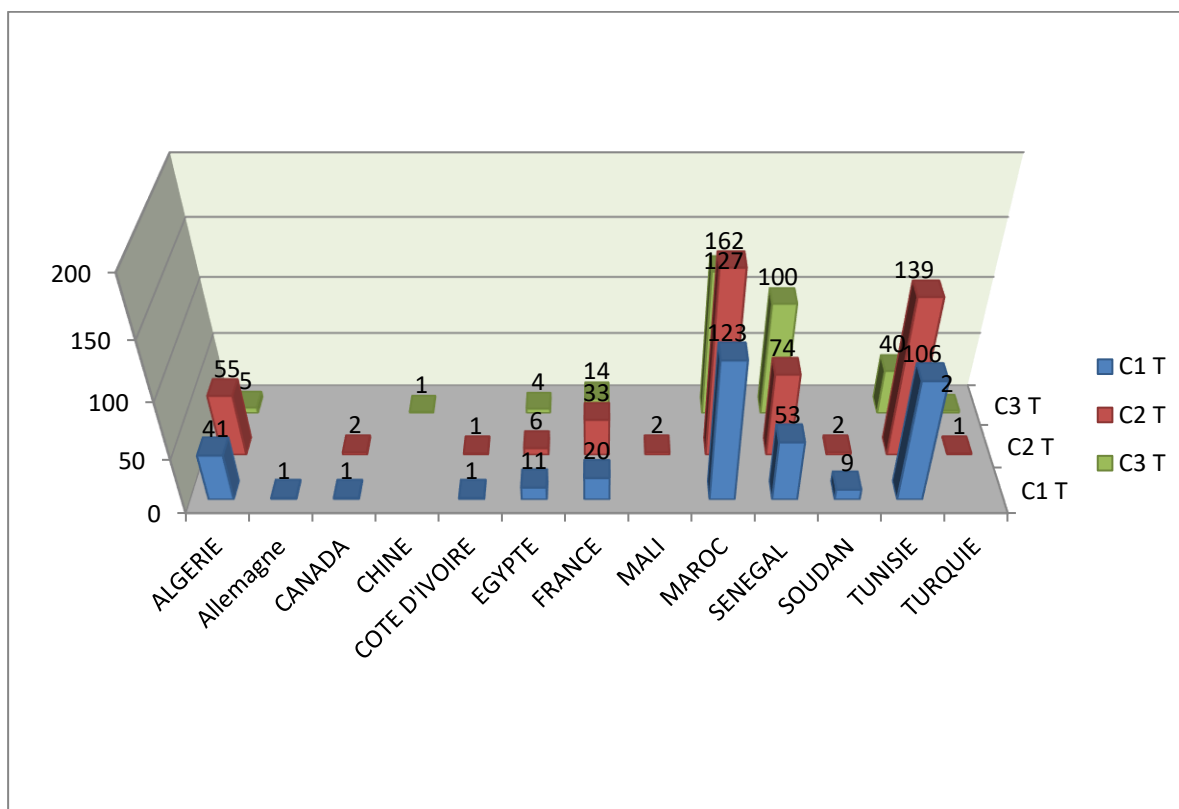


FIGURE 10: MAURITANIAN STUDENTS HOLDERS OF SCHOLARSHIPS ABROAD BY CYCLE AND HOST COUNTRY

II.7.b Mauritanian students holders of scholarships abroad by field of studies

Field of study	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019
Agriculture		6	24	24	29
Engineering, processing and construction industries	76	275	205	185	216
Letters et arts	92	84	27	4	9
Health and social protection	370	343	345	394	411
Sciences	648	426	447	456	386
Social sciences, commerce, and law	118	181	102	90	49
Services		3	3	4	4
Education		18	11	16	29
NR					3
Grand total	1304	1336	1164	1173	1136

TABLE 15: MAURITANIAN STUDENTS HOLDERS OF SCHOLARSHIPS ABROAD BY FIELD OF STUDY

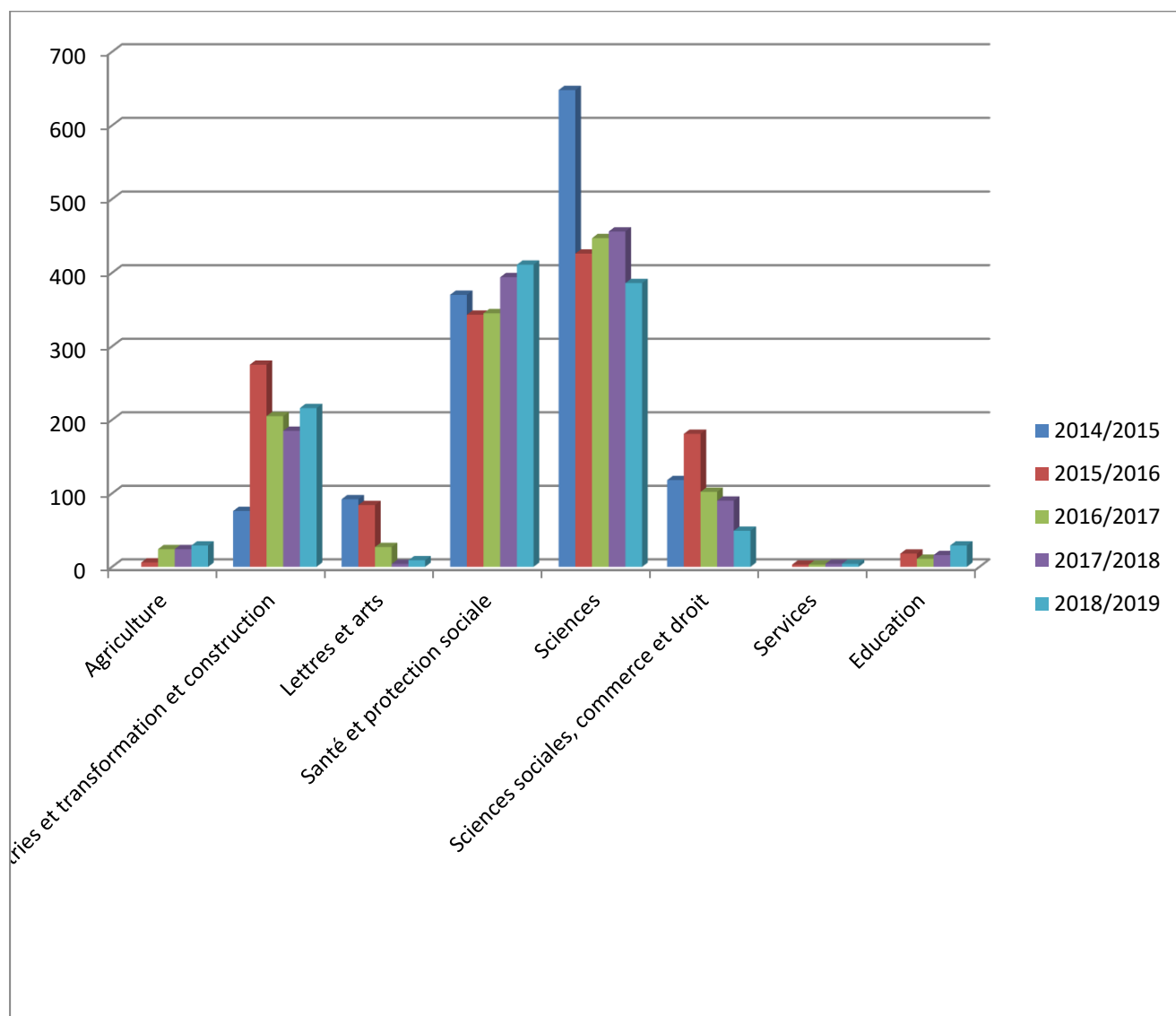


FIGURE 11: DISTRIBUTION OF MAURITANIAN STUDENTS HOLDERS OF SCHOLARSHIPS ABROAD BY FIELD OF STUDY

➤ Evolution of the number of students holders of scholarships abroad from 2014/2015 to 2017/2018

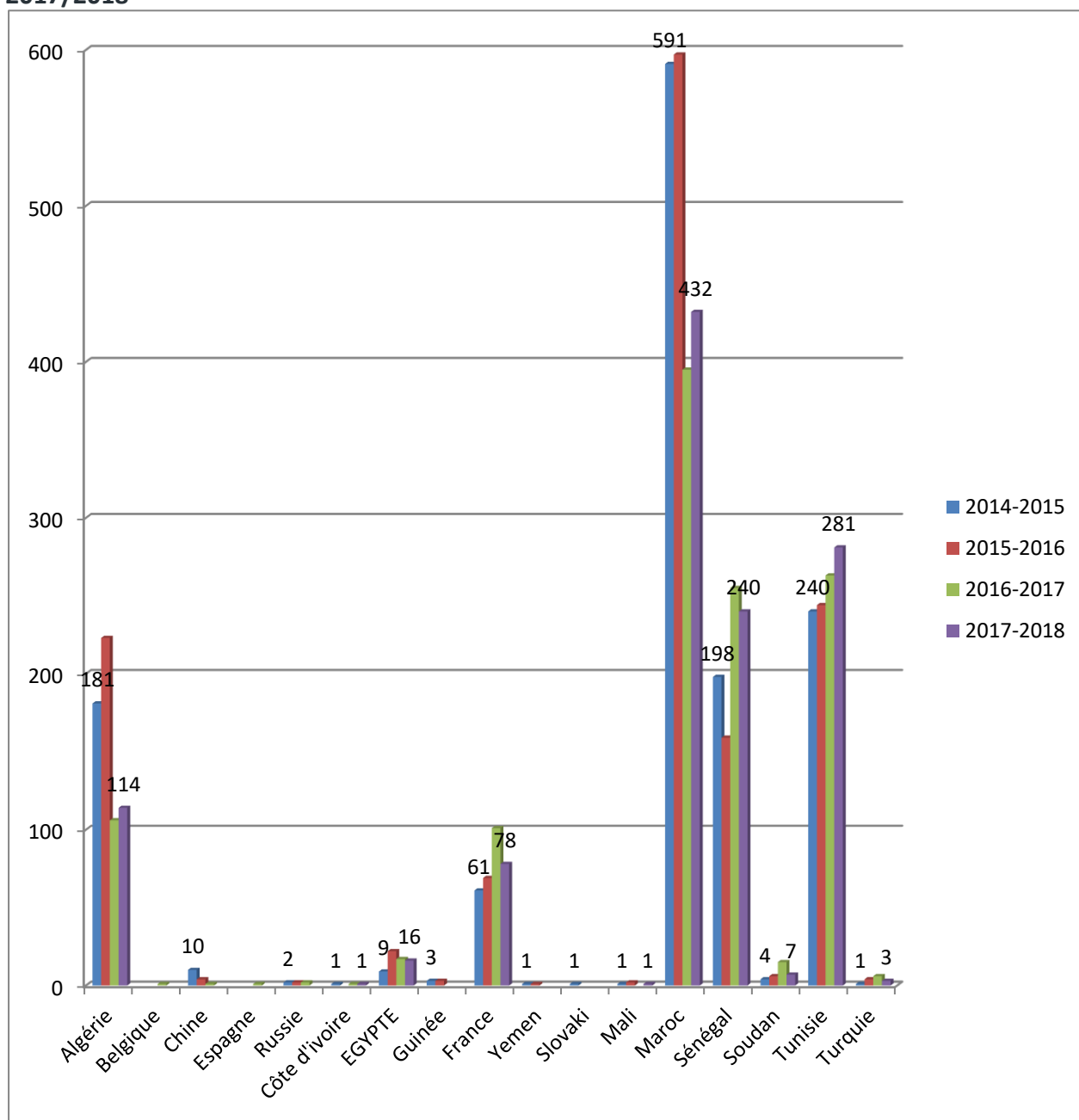




FIGURE 127: EVOLUTION OF THE NUMBER OF STUDENTS HOLDERS OF SCHOLARSHIPS ABROAD FROM 2014/2015 TO 2017/2018

TABLE 16: MAURITANIAN STUDENTS HOLDING SCHOLARSHIPS ABROAD BY LEVEL AND HOST COUNTRY

	1A		2A		3A		4A		5A		6A		7A		M1		M2		D		CES		Total	
	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F
Algeria	20	3	21	6									2		5		50	5	3				101	14
Germany					1																		1	0
Canada					1				1								1	1					3	1
China																			1				1	0
Ivory Coast	1						1	1															2	1
Egypt	9	1	1		1	1	1	1	4	1			3	1	1	1			1				21	6
France					20	4	12	2	12						2	1	7	1	14	1			67	9
Mali											2												2	0
Maroc	50	13	28	5	45	6	44	4	35	7	19	6	29	6	27	3	55	12	67	6	13	3	412	71
Senegal	15	4	18	9	21	7	32	6	29	9	41	13	33	6			11	2	27	11			227	67
Sudan	8		1						1	1							1						11	1
Tunisia	52	8	33	5	21	5	39	6	29	6	5	1	3		19	5	52	16	26	5	6		285	57
Turkey											1				1	1			1				3	1
Total	155	29	102	25	110	23	129	20	111	24	68	20	70	13	55	11	177	37	140	23	19	3	1136	228

 Among the top 5 host countries

 Highest number of students by level and country (among the 5)

II.7.c Foreign students enrolled in Mauritanian universities by home country

- Number of students by home country

HOME COUNTRY	Number
Afghanistan	1
Germany	2
Saudi Arabia	5
Bulgaria	1
France	1
Benin	1
Cameroon	2
Ivory Coast	9
Egypt	2
Gambia	21
Guinea	1
Kenya	1
Kuwait	1
Irak	1
Libya	2
Latvia	1
Mali	23
Maroc	84
Niger	1
Nigeria	1
Palestine	10
Senegal	28
Syria	7
Tunisia	42
Togo	1
Burkina Faso	3
Turkey	1
Total	253

TABLE 17: FOREIGN STUDENTS ENROLLED IN MAURITANIAN UNIVERSITIES BY HOME COUNTRY

The 5 biggest groups

- Distribution by institution

Host institution	Number
FLASS	4
FC	12
FLSH	3
FM	80
FST	7
IUP	2
FSJE	4
ISERI	98
UCM	92
SUP M	26
UIL	14
Grand total	342

TABLE 18: FOREIGN STUDENTS ENROLLED IN MAURITANIAN UNIVERSITIES BY HOST INSTITUTION

- Distribution by level

Level	L1	L2	L3	M1	M2	D1	D2	Total
Number	127	54	44	67	36	10	4	342

TABLE 19: FOREIGN STUDENTS ENROLLED IN MAURITANIAN UNIVERSITIES BY INITIAL LEVEL

The most attended level

II.7.d Distribution of Mauritanian students by age and gender

Age	2014/2015		2015/2016		2016/2017		2017/2018		2018/2019	
	T	F	T	F	T	F	T	F	T	F
< 19 years	263	98	260	112	248	109	323	145	455	221
19 years	511	211	497	200	506	221	692	333	1323	566
20 years	946	368	1040	425	976	394	1185	512	1947	897
21 years	1581	533	1652	590	1589	600	1767	721	2407	1036
22 years	2025	726	2161	694	2111	699	2232	830	2819	1145
23 years	2312	717	2306	753	2439	728	2517	837	2993	1107
24 years	1959	621	2312	722	2214	715	2461	733	2850	963
25 years	1863	550	1718	550	1964	602	1988	633	2435	790
26 years	1836	569	1496	446	1416	453	1601	512	1485	513
27 years	1394	426	1387	468	1141	340	1035	342	1183	402
28 years	1095	380	996	316	1006	352	811	266	722	251
29 years	918	298	733	245	683	216	655	237	553	201
30 years	749	247	642	224	483	165	424	139	444	167
> 30 years	3117	991	2921	881	2478	731	2095	593	1685	435
ND	233	71	177	59	117	37	58	13	116	21
Total	20800	6806	20298	6685	19371	6362	19844	6846	23417	8736

TABLE 20: MAURITANIAN STUDENTS BY AGE AND GENDER

Comment: Evolution of the number of students over age 28

	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019
Number of students over age 28	5879	5292	4650	3985	3404
Total number	20800	20298	19371	19844	23417
%	28%	26%	24%	20%	15%

TABLE 21: EVOLUTION OF THE NUMBER OF STUDENTS OVER AGE 28

A significant improvement of the percentage of students having higher education ages is noticeable. In fact, the number of students over age 28 dropped from 28% in 2014/2015 to 15% in 2017/2018.

III. Internal efficiency

III.1 Review

The table below presents a review of the definition of some internal efficiency indicators.

Indicator	Definition		Interpretation
Apparent promotion rate	It corresponds to the proportion of students registered in a given class who move in the next grade as early as the following year.	$TPA_j^T = \frac{NE_{j+1}^{T+1}}{EE_j^T} \times 100$	High promotion rates stand for high survival rates.
Actual rate of promotion or actual rate of transition of grade j for the year T	It measures the actual proportion of students who pass from one grade to the next	$TPE_j^T = \frac{NE_{j+1}^{T+1}}{NE_j^T} \times 100$	The higher the in-between grades transition rate, the greater the number of students who pass from one grade to the other.
Repetition rate	The repetition rate is the proportion of repeaters in a class i for a given year t who were in the very same class the previous year ($t-1$)	$TDR = \frac{RD_j^T}{EE_j^{T-1}} \times 100$	A high repetition rate means a high degree of grade repetition. Such a situation can lead to a significant dropout level or an artificial blow of the Gross Enrolment Ratio.
Dropout rate	It is the percentage of pupils in a given grade who dropout school during or at the end of the school year.	Dropout rate = (1 – Apparent promotion rate – Repetition rate)	Ideally, this rate should be close to 0% ; a high dropout rate is a sign of efficiency problems un taux élevé d'abandon scolaire est le signe de problèmes d'efficience à d'études que les politiques néées d'études permet d'identifier les années d'éducation. La comparaison des taux entre les internes dans les systèmes doivent cibler en priorité.
Percentage of repeaters	It corresponds to the percentage of repeaters for a given year and a given grade in relation to the total number of students of the same grade level the same year.	$PR = \frac{RD_j^T}{EF_j^T} \times 100$	A high percentage of repeaters blows artificially the Gross Enrolment Ratio and limits the number of places schooling as well as the number of places for incoming students.

TABLE 22: DEFINITION OF SOME INTERNAL EFFICIENCY INDICATORS

III.2 SUMMARY TABLE OF INDICATORS FOR THE PROMOTION OF HIGHER EDUCATION INSTITUTIONS

The following tables display the indicators useful in the calculation of internal efficiency using the transversal method.

III.2.a Indicators for the promotion of higher education institutions (in exception of the FM)

Institution	School year	students	Level				L1			L2			L3		
			L1	L2	L3	Graduates	TPA	TR	TA	TPA	TR	TA	TPA	TR	TA
FST	17/18	Eff	1794	972	890	564	49%	28%	23%	73%	2%	24%	63%	3%	33%
	18/19	Eff	2658	899	743										
		Red	505	23	31										
IUP	17/18	Eff	302	258	207	178	66%	16%	18%	89%	5%	6%	86%	11%	3%
	18/19	Eff	450	212	677										
		Red	47	12	252										
FSJE	17/18	Eff	1665	837	1110	675	41%	36%	24%	78%	6%	15%	61%	6%	33%
	18/19	Eff	3456	732	728										
		Red	594	54	71										
FLSH	17/18	Eff	1125	681	767	323	32%	36%	32%	60%	17%	23%	42%	35%	23%
	18/19	Eff	1856	478	677										
		Red	405	114	268										
ISCAE	17/18	Eff	562	291	251	164	66%	22%	12%	89%	8%	4%	65%	3%	32%
	18/19	Eff	576	394	265										
		Red	122	22	7										
ISET	17/18	Eff	157	84	79	75	78%	7%	15%	99%	0%	1%	95%	1%	4%
	18/19	Eff	151	122	84										
		Red	11	0	1										
ISSM	17/18	Eff	15	16	10	10	93%	0%	7%	75%	0%	25%	100%	0%	0%
	18/19	Eff	44	14	12										
		Red	0	0	0										
FC	17/18	Eff	165	87	106	84	79%	6%	15%	18%	11%	70%	79%	7%	14%
	18/19	Eff	235	140	23										
		Red	10	10	7										
FLASS	17/18	Eff	146	86	56	48	84%	5%	10%	24%	15%	60%	86%	9%	5%
	18/19	Red	8	13	5										
FOE	17/18	Eff	57	37	24	20	68%	4%	28%	19%	11%	70%	83%	8%	8%
	18/19	Eff	118	43	9										
		Red	2	4	2										
ISPLTI	17/18	Eff	101	39	29	11	32%	9%	59%	69%	28%	3%	38%	52%	10%
	18/19	Eff	104	43	42										
		Red	9	11	15										

TABLE 23: INDICATORS FOR THE PROMOTION OF HIGHER EDUCATION INSTITUTIONS (IN EXCEPTION OF FM)

III.2.B INDICATORS FOR THE PROMOTION OF THE FACULTY OF MEDICINE

	PCEM1		PCEM2		DCEM1		DCEM2		DCEM3		DCEM4		TCEM1		Graduates
	Eff	Red	Eff	Red	Eff	Red	Eff	Red	Eff	Red	Eff	Red	Eff	Red	
2017-2018	232	42	193	1	159	21	153	30	76	24	130	92	130	16	58
2018-2019	274	52	155	26	200	25	172	40	131	18	160	26	101	46	
TPA	56%		91%		83%		74%				42%		45%		
TR	22%				16%		26%		24%		20%		35%		
TA	22%				1%		0%				38%		20%		

TABLE 24: INDICATORS FOR THE PROMOTION OF THE FACULTY OF MEDICINE

III.3 2017/2018 Graduates

III.3.a Distribution of graduates by diploma

Licence		Engineer		CAPPC		General Practitioner		Total	
T	F	T	F	T	F	T	F	T	F
2455	838	74	7	286	40	56	22	2882	913

TABLE 25: DISTRIBUTION OF GRADUATES BY DIPLOMA

III.3.b Number of graduates per number of years spent in the institution

➤ Licence degree

	4-c Number of graduates per number of years spent in the institution (Licence 2018)									
	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	NR	Grand total
ESP				74						74
FSJE		342	151	123	42	8	6	2	1	675
FST		402	115	21	7	3			16	564
ISCAE		163							1	164
ISSET		69							6	75
ISPLTI		11								11
ISSM		10								10
ISERI	3	270	33	5	1		1	1		314
Grand total	3	1267	299	223	50	11	7	3	24	1887

TABLE 26: NUMBER OF GRADUATES PER NUMBER OF YEARS SPENT IN THE INSTITUTION (LICENCE)

➤ Engineer

Number of graduates per number of years spent in the institution (Engineer)			
Institution	Gender	3 years	Grand total
ESP	T	74	74
	F	6	6
Grand total	T	74	74
	F	6	6

TABLE 27: NUMBER OF GRADUATED PER NUMBER OF YEARS SPENT IN THE INSTITUTION (ENGINEER)

III.4 Use of the reconstructed cohorts technique

In order to further describe the functioning of the trainings under study, it is helpful to reconstruct the future of an artificial 100-students cohort by applying the previously calculated promotion rates, repetition rates, and dropout rates, as recorded in the table above, to each level of studies. This reconstruction will be performed on the grounds of a certain number of hypotheses:

- i) The number of authorized repetitions is limited to a maximum of two by cycle ;
- ii) The repeaters behave like graduates.

Resorting to this prospective analysis is interesting in terms of planning and helps completing the retrospective analysis that could be realized on the basis of the longitudinal data since it allows anticipating the situation that might arise if the latest enrolment conditions persist for the upcoming years. In what follows, we will tackle the case of the Faculty of Science and Technology extensively. For the other institutions, we will limit ourselves to tables of results and comments.

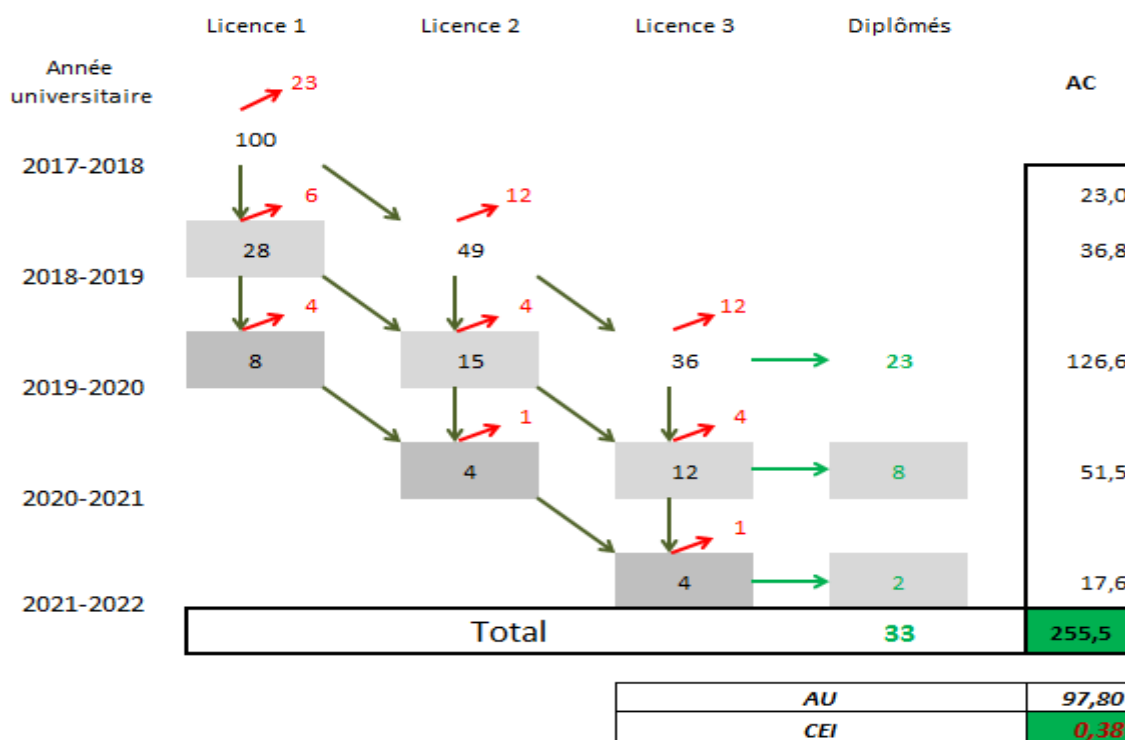
III.4.a FST

The table below summarizes the major characteristics of students' progress in a Licence program at the Faculty of Science and Technology in 2017-2018 and 2018-2019.

L1			L 2			L 3		
P	r	ab	p	r	ab	p	r	ab
0,49	0,28	0,23	0,73	0,02	0,24	0,63	0,03	0,33

TABLE 28: MAJOR CHARACTERISTICS OF STUDENTS' PROGRESS IN A LICENCE PROGRAM AT THE FST

The data describe a training whose internal efficiency is average: the promotion rates are particularly low in L1 and fairly good in L2 and L3 (over 70% of the students in L2 and over 63% of those in L3 are graduating). Repetitions are significant in first year (28%); as for dropouts, they are very high: 23% in the first year of the cycle (L1), 24% in L2 and 33% in L3. These data are presented in the diagram below.



The restructuring is based on a multi-step line of reasoning:

- i) Using the results of the preceding table to an artificial cohort of 100 first year students, it can be argued that 49 (being $100 \times 40\%$) will directly pass to second year, 28 (being 100×0.28) will repeat the school year, and 23 will dropout;
- ii) Among the 28 students repeating the first level, 14 (being $28 \times 49\%$) will pass to second year, 8 (being 28×0.28) will repeat the school year, and 6 (being 28×0.23) will dropout;
- iii) The 14 students who passed among the repeaters will encounter in second year a repeater from the group of 68 students who passed directly from first year to second year. Thus, 12 students will reach second year after three years of studies (either after repeating first year, or repeating second year);
- iv) The eight students who will find themselves in first year after three years of studies no longer have the right to repeat a year: 4 (being 8×0.49) of them will pass. Overall, it can be argued by the same token that over the cohort's 100 students 33 earn a diploma (23 without repetition, 8 after one repetition, and 2 after two repetitions). In fact, in an ideal functioning it would have been helpful to consume 97 student-years (32×3) in order to reach the same results while more has been necessary because of repetitions and dropouts through schooling. For a better understanding of the calculation of the number of student-years actually consumed, a table like the one below can be filled out breaking down the students of the cohort by level and duration spent in the cycle.

In order to set up this table, it just takes to record “outcomes” of the cycle (dropouts and diplomas) by duration and studies.

		L1	L2	L3	Diploma	Total	AC
Number of students who leave the FST after:	1 year	23				23	23.02
	2 years	6	12			18	36.7
	3 years	4	4	12	23	43	126.6
	4 years		1	4	8	13	51.4
	5 years			1	2	3	17.6
Total		33	17	17	33	100	255.5

TABLE 29: CYCLE « OUTPUTS » (DROPOUTS AND DIPLOMAS) BY DURATION AND STUDIES

❖ *Internal efficiency indicators for the FST and comments*

The table below presents:

- Comments on the graduates university trainings (dropouts and diplomas);
- Some internal efficiency indicators.

Dropouts and graduates of the cohort after:	Number	Number of student-year actually consumed	Comments
1 year	23	23	23 % drop out first year
2 years	18	36.7	41 % drop out during the first two years
3 years	43	126.6	After three years, 23 students out of 100 earn their Licence degree, whereas 20% dropout in third year (thus 61% of the students drop out after three years at the faculty)
4 years	13	51.4	8% of the students earn their degrees only in four (4) years of studies while 5% of them dropout after four years
5 years	3	17.6	2% of Licence students in the Faculty of Science and Technology earn their diplomas with a two-year delay
Total	100	255.5	255.5 student-year consumed to produce 33 diplomas
Indicators		Comments	
Number of useful student-years		97.8	33*3 (33 graduates)
Average number of student-years per graduate		7.8	255.5/33
Internal Efficiency Coefficient (CEI)		0.38	The Internal Efficiency Coefficient (CEI) which is the ratio of the number of study-years consumed in an ideal situation for the 33 graduates and the number actually consumed study-years is equal to 97.8/255.3 being thus 0.38.

Coefficient of Expenditure Rise (CAD)	2.6	In the case of the FST, it appears that about two times the theoretical cost of studies should be spent in order to produce a Licence graduate. The cost of a graduate will be equal to $2.6 \times 3 \times \text{CU}$ where CU represents the annual cost per student; a graduate cost is thus around $7.8 \times \text{CU}$ versus the $3 \times \text{CU}$ that would have been theoretically necessary with no repetitions and dropouts.
Wasted student-years	158	The wasted years with reference to an ideal functioning (158 student-years) that are deduced from the difference between what has been actually invested (255.5 student-years) and what could have been invested as a minimum (97.5 student-years) originate mainly from dropouts during the studies (97.5 years out of the 97.8, being 99%), the rest being due to repetitions.
Useful repetition years	$14 = 10 \times 1 + 2 \times 2$	The graduates with delays are : 10 graduates with one-year delay (10 useful student-years) and 2 with two-year delay (2x2 useful student-years)
Percentage of useful repetition years	$14/158 = 8.9\%$	The useful repetition years represent less than 9%

TABLE 30: INTERNAL EFFICIENCY INDICATORS AND COMMENTS ON THE GRADUATES UNIVERSITY CURRICULA (DROPOUTS AND GRADUATES)

III.4.b University Professional Institute

Dropouts and graduates of the cohort area	Number	Number of student-years consumed	Comments
1 year	18	18.2	18% drop out in first year
2 years	7	13.88	25 % drop out in the first two years
3 years	55	163.23	After three years, 53 students out of 100 earn their Licence degree, whereas 4 drop out in third year (thus 29% of the students drop out after three years)
4 years	16	66.05	16% of the students only earn their diplomas on the 4 th year, and 1% of them drop out after four years.
5 years	4	19.6	3% of the students earn their diploma with a two-year delay
Total	100	281	281 student-years consumed to produce 70 graduates
Indicators		Comments	
Number of useful student-years	209	70*3 (70 graduates)	
Average number of student-years per graduate	4.02	281/70	
Internal Efficiency Coefficient (CEI)	0.74	The Internal Efficiency Coefficient (CEI) which is the ratio of the number of study-years consumed in an ideal situation for the 70 graduates and the number of actually consumed study-years is equal to $209/281$ being thus 0.74	
Coefficient of Expenditure Rise (CAD)	1.34	It appears that about an additional one third of the theoretical cost of studies should be spent in order to produce a graduate. The cost of a graduate will be equal to $1.34 \times 3 \times \text{CU}$ where CU represents the annual cost per student; a graduate cost is thus around $4.02 \times \text{CU}$ versus the $3 \times \text{CU}$ that would have been theoretically necessary with no repetitions and dropouts.	

Wasted student-years	72	They originate mainly from dropouts during the studies (53 years out of the 72, being 74%), the rest being due to repetitions.
Useful repetition years	$22=16*1+3*2$	The graduates with delays are: 16 graduates with one-year delay (14 useful student-years) and 3 with two-year delay (3x2 useful student-years)
Percentage of useful repetition years	30%	Only 30% of the repetition years are useful

Table 31: Professional University Institute

III.4.c Faculty of Arts and Human Sciences

Droupouts and graduates of the cohort after	Number	Number of student-years consumed	Comments
1 year	32	32	32 % drop out in first year
2 years	19	38	19% drop out during the first two years
3 years	25	76	After three years, 8 students out of the 100 earn their Licence degree, whereas 17 drop out in third year (thus 68% of the students drop out after three years)
4 years	14	56	7% of the students earn their degrees only in four (4) years and 17% of them drop out after four (4) years
5 years	10	51	4% of Licence students earn their diplomas with a two-year delay
Total	100	252	252 student-years consumed to produce 20 diplomas
Indicators		Comments	
Number of useful student-years	60	20*3 (20 graduates)	
Average number of student-years per graduate	12.6	252/20	
Internal Efficiency Coefficient (CEI)	0.23	The Internal Efficiency Coefficient (CEI) which is the ration of the number of study-years consumed in an ideal situation for the 20 graduates and the number of actually consumed study-years is equal 60/252 being thus 0.23	
Coefficient of Expenditure Rise (CAD)	4.28	It appears that about four times the theoretical cost of studies should be spent in order to produce a graduate. The cost of a graduate will be equal to 4.28 x 3 x CU where CU represents the annual cost per student; a graduate cost is thus around 12.9 x CU versus the 3 x CU that would have been theoretically necessary with no repetitions and dropouts	

Wasted student-years	192	The wasted year with reference to an ideal functioning (192 student-years) that are deducted from the difference between what has been actually invested (252 student-years) and what could have been invested as a minimum (60 student-years) originate mainly from dropouts during the studies (154 years out of the 192, being 80%), the rest being due to repetitions.
Useful repetition years	15	The graduates with delays are : 7 graduates with one-year delay (7 useful student-years) and 4 with two-year delay (8 useful student-years)
Percentage of useful repetition years	7.8%	The useful repetition years represent 7.8%

Table 32: Faculty of Arts and Human Sciences

III.4.d Faculty of Law and Economic Sciences

Dropouts and graduates of the cohort after	Number	Number of student-years consumed	Comments
1 year	24	24	20% drop out in first year
2 years	14	29	38% drop out during the first two years
3 years	40	120	After three years, 19 students out 100 earn their Licence degree, whereas 21 dropout in third year (thus 59% of the students drop out after three years)
4 years	16	63	9% of the students earn their degrees only in four (4) years of studies while 6 out of 100 students dropout after four years of studies
5 years	6	30	4% of Licence students earn their diplomas with a two-year delay
Total	100	266	266 student-years consumed to produce 32 graduates
Indicators		Comments	
Number of useful student-years	96	32*3 (32 graduates)	
Average number of student-years per graduate	8.3	266/32	
Internal Efficiency Coefficient (CEI)	0.37	The Internal Efficiency Coefficient (CEI) which is the ratio of the number of study-years consumed in an ideal situation for the 32 graduates and the number of actually consumed study-years is equal to 96/266 being thus 0.37	
Coefficient of Expenditure Rise (CAD)	2.73	In the case of the FSJE, it appears that about 6 times the theoretical cost of studies should be spent in order to produce a graduate. The cost of a graduate will be equal to 2.73x 3 x CU where CU represents the annual cost per student; a graduate cost is thus around 8x CU versus the 3 x CU that would have been theoretically necessary with no repetitions and dropouts.	

Wasted student-years	170	The wasted student-years with reference to an ideal functioning (170 student-years) that are deduced from the difference between what has been actually invested (266 student-years) and what could have been invested as a minimum (45 student-years) originate more from dropouts than repetitions during the studies (90 years out of the 170, being 52%, the rest being due to repetitions.
Useful repetition years	17	The graduates with delays are: 9 graduates with one-year delay (9 useful student-years) and 4 with two-year delay (42 useful student-years)
Percentage of useful repetition years	10%	The useful repetition years represent 10%

Table 33: The Faculty of Law and Economic Sciences

III.4.e Higher Institute of Accounting and Business Administration

Dropouts and graduates of the cohort after	Number	Number of student-years consumed	Comments
1 year	12	12	12% drop out in the first year
2 years	5	10	17% drop out during the first two years
3 years	60	178	After three years, 38 students out of 100 earn their Licence degree, whereas 21 dropout in third year (thus 38% of the students drop out after three years)
4 years	19	75	12% of the students earn their degrees in four (4) years of studies while 7 out of 100 students drop out after four years of studies
5 years	4	19	3% of Licence students earn their diplomas with a two-year delay
Total	100	299	299 student-years consumed to produce 54 graduates
Indicators		Comments	
Number of useful student-year	162	54*3	
Average number of student-years per graduate	3.7	299/54	
Internal Efficiency Coefficient (CEI)	0.53	The Internal Efficiency Coefficient (CEI) which is the ratio of the number of study-years consumed in an ideal situation for the 54 graduates and the number of actually consumed study-years is equal to 162 / 299 being thus 0.53	
Coefficient of Expenditure Rise (CAD)	1.9	In the case of the ISCAE, it appears that about 1.9 times the theoretical cost of studies should be spent in order to produce a graduate. The cost of a graduate will be equal to 1.9 x 3 x CU where CU represents the annual cost per student; a graduate cost is thus around 5.6 x CU versus the 3 x CU that would have been theoretically necessary with no repetitions and dropouts.	

Wasted student-years	137	The wasted years with reference to an ideal functioning (137 student-years) that are deduced from the difference between what has been actually invested (299 student-years) and what could have been invested as a minimum (162 student-years) originate mainly from dropouts during the studies (69 years out of the 90, being 76%), the rest being due to repetitions.
Useful repetition years	22	The graduates with delays are: 14 graduates with one-year delay (14 useful student-years) and 4 with two-year delay (4x2 useful student-years)
Percentage of useful repetition years	16%	The useful repetition years represent 16%

Table 34: The Higher Institute of Accounting and Business Administration

III.4.f Higher Institute of Technology

Dropouts and graduates of the cohort after	Number	Number of student-years consumed	Comments
1 year	15	15	15% drop out in the first years
2 years	2	4	18% drop out during the first two years
3 years	76	228	After three years, 73 students out of 100 earn their Licence degree
4 years	6	24	6% of the students earn their degrees only in four (4) years of studies
Total	100	274	286 student-years consumed to produce 79 graduates
Indicators		Comments	
Number of useful student-years		237	79*3
Average number of student-years per graduate		3.5	274/79
Internal Efficiency Coefficient (CEI)		0.87	The Internal Efficiency Coefficient (CEI) which is the ration of the number of study-years consumed in an ideal situation for the 79 graduates and the in the case number of actually consumed study-years 237/274 being thus 0.87
Coefficient of Expenditure Rise (CAD)		1.15	In the case of the ISET, it appears that in order to produce a graduate the theoretical cost of studies increased by 15% should be spent

Wasted student-years	37	The wasted years with reference to an ideal functioning (37 student-years) that are deduced from the difference between what has been actually invested (274 student-years) and what could have been invested as a minimum (237 student-years) originate mainly from dropouts during the studies (28 years out of the 37, being 76%), the rest being due to repetitions
Useful repetition years	6	The graduates with delays are: 6 graduates with one-year delay (6 useful student years)
Percentage of useful repetition years	16%	The useful repetition years represent 16%

Table 35: The Higher Institute of Technology

III.4.g Faculty of Shariaa

Dropouts and graduates of the cohort after	Number	Number of student-years consumed	Comments
1 year	15	15	15 % drop out in the first year
2 years	56	112	71 % drop out in the first two years
3 years	23	70	After three years, 11 out of 100 students earn their Licence degree
4 years	5	19	3% of the students earn their degrees only in four (4) years
5 years		3	Less than 1% of the students earn their diplomas with a five-year delay
Total	100	219	219 student-years consumed to produce 15 graduates
Indicators		Comments	
Number of useful student-years		45	15*3
Average number of student-years per graduate		14.6	219/15
Internal Efficiency Coefficient (CEI)		0.2	The Internal Efficiency Coefficient (CEI) which is the ration of the number of study-year consumed in an ideal situation for the 15 graduates and the number of actually consumed study-years is equal to 45/219 being thus 0.2
Coefficient of Expenditure Rise (CAD)		5	In the case of an average Licence degree, it appears that it takes an amount equal to five times the theoretical cost of studies to produce one graduate.

Wasted student-years	174	The wasted years with reference to an ideal functioning (174 student-years) that are deduced from the difference between what has been actually invested (219 student-years) and what could have been invested as a minimum (45 student-years) originate mainly from dropouts during the studies (163 years out of the 174, being 93%), the rest being due to repetitions
Useful repetition years	3	The graduates with delays are : 3 graduates with one-year delay
Percentage of useful repetition years	1.7%	The useful repetition years represent less than 2%

Table 36: Faculty of Shariaa

III.4.h Faculty of Arabic Language and Social Sciences

Dropouts and graduates of the cohort after	Number	Number of student-years consumed	Comments
1 year	10	10	10% drop out in first year
2 years	52	103	62% drop out in the first two years
3 years	29	88	After three years, 18 out of 100 studentes earn their Licence degree
4 years	8	31	5% of the students earn their degree only in four (4) years
5 years	1	6	1% of the students earn their diplomas with a five-year delay
Total	100	238	238 student-year consumed to produce 24 graduates
Indicators		Comments	
Number of useful student-years	72	24*3	
Average number of student-years per graduate	9.9	238/24	
Internal Efficiency Coefficient (CEI)	0.3	The Internal Efficiency Coefficient (CEI) which is the ratio of the number of study-years consumed in an ideal situation for the 24 graduates and the number of actually consumed study-years is equal to 72 / 238 being thus 0.3	
Coefficient of Expenditure Rise (CAD)	3.32	In the case of a Licence degree at the FLASS, it appears that it takes around an amount equal to three times the theoretical cost of studies to produce one graduate	

Wasted student-years	166	The wasted years with reference to an ideal functioning (166 student-years) that are deduced from the difference between what has been actually invested (238 student-years) and what could have been invested as a minimum (72 student-years) originate mainly from dropouts during the studies (135 years out of the 166, being 81%), the rest being due to repetitions.
Useful repetition years	7	The graduates with delays are: 5 graduates with one-year delay and 1 with two-year delay
Percentage of useful repetition years	8%	The useful repetition years represent 8%

Table 37: THE FACULTY OF ARABIC LANGUAGE AND SOCIAL SCIENCES

III.4.i Faculty of Oussoul Eddine

Dropouts and graduates of the cohort after	Number	Number of student-years consumed	Comments
1 year	28	28	28 % drop out in first year
2 years	49	98	77% drop out in the first two years
3 years	19	56	After three years, 11 out of 100 students earn their Licence degree
4 years	3	14	2% of the students earn their degrees only in four (4) years of studies
5 years	1	2	Less than 1% of the students earn their diplomas with a five-year delay
Total	100	199	199 student-years consumed to produce 14 graduates
Indicators		Comments	
Number of useful student-years	42	14*3	
Average number of student-years per graduate	4.7	199/14	
Internal Efficiency Coefficient (CEI)	0.2	The Internal Efficiency Coefficient (CEI) which is the ratio of the number of study-years consumed in an ideal situation for the 14 graduates and the number of actually consumed study-years is equal to 42 / 199 being thus 0.2	
Coefficient of Expenditure Rise (CAD)	4.9	It takes around five times the theoretical cost of studies to produce one graduate	

Wasted student-years	157	The wasted years with reference to an ideal functioning that are deduced from the difference between what has been actually invested and what could have been invested as a minimum originate mainly from dropouts during the studies (140 years out of the 157, being 89%), the rest being due to repetitions
Useful repetition years	2	The graduates with delays are : 2 graduates with one-year delay (2 useful student-years)
Percentage of useful repetition years	1.2%	The useful repetition years represent less than 2%

TABLE 38: FACULTY OF OUSSOUL EDDINE

III.4.j ISPLTI

Dropouts and graduates of the cohort after	Number	Number of student-years consumed	Comments
1 year	59	59	59% drop out in first year
2 years	6	12	65% drop out in the first two years
3 years	11	34	After three years, 8 out of 100 students earn their Licence degree
4 years	10	42	7 % of the students earn their degrees only in four (4) years of studies
5 years	14	62	More than 5% of the students earn their diplomas with a five-year delay
Total	100	210	210 student-years consumed to produce 20 graduates
Indicators		Comments	
Number of useful student-years	60	20*3	
Average number of student-years per graduate	10.5	210/20	
Internal Efficiency Coefficient (CEI)	0.3	The Internal Efficiency Coefficient (CEI) which is the ration of the number of study-years consumed in an ideal situation for the 20 graduates and the number of actually consumed study-years is equal to 60/210 being thus 0.3	
Coefficient of Expenditure Rise (CAD)	3.4	It takes around 3 times the theoretical cost of studies to produce one graduate	

Wasted student-years	150	The wasted years with reference to an ideal functioning that are deduced from the difference between what has been actually invested and what could have been invested as a minimum originate from dropouts during the studies (80 years out of 150, being 53%), the rest being due to repetitions.
Useful repetition years	17	The graduates with delays are: 7 graduates with one-year delay (7 useful student-years) and 5 graduates with two-year delay (10 useful student-years)
Percentage of useful repetition years	11%	The useful repetition years represent less than 11%

TABLE 39: ISPLTI

III.4.k ISSM

Dropouts and graduates of the cohort after	Number	Number of student-years consumed	Comments
1 year	7	7	7% drop out in first year
2 years	23	46	30% drop out in the first two years
3 years	70	210	After three years, 70 out of 100 students earn their Licence degree
Total	100	263	263 student-years consumed to produce 70 graduates
Indicators		Comments	
Number of useful student-years		210	70*3
Average number of student-years per graduate		3.7	263/70
Internal Efficiency Coefficient (CEI)		0.8	The Internal Efficiency Coefficient (CEI) which is the ratio of the number of study-years consumed in an ideal situation for the 70 graduates and the number of actually consumed study-years is equal to 210/263 being thus 0.8
Coefficient of Expenditure Rise (CAD)		1.25	It takes around the theoretical cost of studies increased by 40% to produce one graduate

Wasted student-years	53	The wasted years with reference to an ideal functioning that are deduced from the difference between what has been actually invested and what could have been invested as a minimum originate exclusively from dropouts during the studies.
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TABLE 40: ISSM

IV. Financial considerations

IV.1 Cost of graduates

	<i>Number</i>	<i>Share of the institution in the DBC</i>	<i>Budget of the institution</i>	<i>Total</i>	<i>Per-unit cost_unesco</i>	<i>Per-unit cost_bis</i>
<i>Faculty of Arts and Human Sciences</i>	3360	33951702	99560430	133512132	39736	29631
<i>Faculty of Medicine</i>	1193	12054875	49465282	61520157	51568	41463
<i>Faculty of Legal and Economic Sciences</i>	6107	61709239	100870950	162580189	26622	16517
<i>Faculty of Science and Technology</i>	4758	48078035	104394736	152472772	32046	21941
<i>Professional University Institute</i>	914	9235671	55554702	64790373	70887	60782
<i>Higher Institute of Accounting and Business Administration (ISCAE)</i>	1259	12721784	33418544	46140328	36648	26544
<i>Teachers College (ENS)</i>	547	5527256	55139229	60666485	110908	100803
<i>Higher Institute of Technology (ISET)</i>	357	3607368	59645830	63253198	177180	167075
<i>ISPLTI</i>	189	1909783	11990041	13899824	73544	63439
<i>ESP(Engineering cycle)</i>	83	838 688				
<i>IPGEI</i>	243	2 455 436				
<i>ESO</i>	32	323 350				
<i>ISSM</i>	70	707 327				

<i>ISA</i>	129	1 303 503				
<i>ISMBTU</i>	295	2 980 879				
<i>IS2M</i>	65	656 804				
<i>GEU L'Académie</i>	58	586 071				
<i>Lebanese International University</i>	263	2 657 529				
<i>Sup' Management</i>	113	1 141 828				
<i>Chinguetti Modern University</i>	304	3 071 821				
Total	20339	205 518 949	570039743	758835458	619137	528195

TABLE 41: COST OF DIPLOMAS

By contrasting the open sector and the pre-selective sector⁶, it would become possible, in addition to the previously mentioned pedagogical considerations used as an example for economists, to compare directly the production cost of a graduate taking into account both the internal efficiency (a priori better in the selective sector because students lacking the necessary pre-requisites are eliminated) and the per-unit cost of studies (lower in the open sector because of the big number of students in first year). For example, engineering schools that are a priori more expensive in terms of the annual CU could display, due to their internal efficiency, a lower cost for the production of a graduate as opposed to some university curricula whose annual CU is yet less important.

Financial implications of the internal efficiency measurement

The table presents the data relating to the internal efficiency of some institutions whose information is available. The per-unit cost is calculated following the techniques used by the **UNESCO/ DAKAR POLE**⁷

⁶ The "open sector" indicates the overall institutions which do not directly select their incoming students (besides possessing the title required to enter higher institution). The "pre-selective sector" designates the institutions which, by contrast, make an explicit selection in addition to possessing the title granting access to higher institution. Making a pre-selection has both a direct impact (some candidates being eliminated) and an indirect impact (self-selection of candidates who believe they have little chances to be selected).

⁷ The calculation takes into account the budget of the central services, a data that is unavailable for the institutions not recorded in the table.

In 2017, the spending of the USIA was of 459 293 979 MRO (327 M corresponding to wages and salaries in addition to 132 M of subsidies and transfers) for 694 students, corresponding to a CU of 661 806 in exception of the spending of the central services.

IV.1.a 2018 per-unit cost (UNESCO/Dakar Pole)

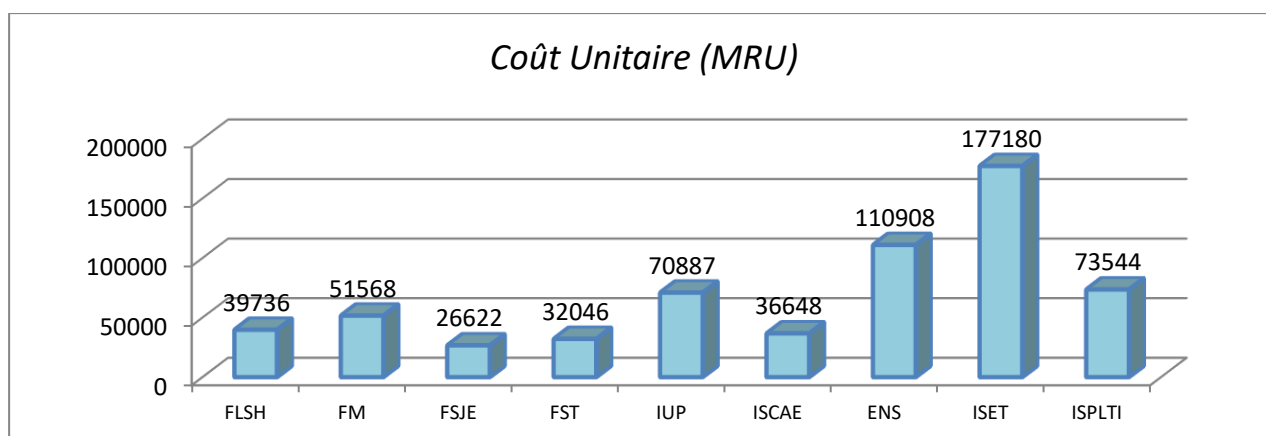


FIGURE 13: 2018 PER-UNIT COST

Institution	Annual per-unit cost of a student (CU)	CEI	CAD=1/CEI	Coût annuel d'un diplômé (CAD*CU)	Coût diplômé (CAD*CU)*3	Coût théorique diplômé (CU*3)	Coût supplémentaire par diplômé
FST	32046	0,38	2,6	84 330	252 991	96 137	156 855
IUP	70887	0,74	1,4	95 793	287 378	212 660	74 718
FLSH	39736	0,23	4,3	172 764	518 292	119 207	399 085
FSJE	26622	0,36	2,8	73 950	221 850	79 866	141 984
ISCAE	36648	0,53	1,9	69 148	207 444	109 945	97 499
ISPLTI	73544	0,29	3,4	253 600	760 800	220 632	540 168
ISET	177180	0,86	1,2	206 023	618 069	531 539	86 530

TABLE 42: FINANCIAL IMPLICATIONS OF THE INTERNAL EFFICIENCY MEASUREMENT

Comment

The analysis of the internal efficiency does not just provide information about the initial organizational modes of the various trainings; it gives also additional information on the attitudes and behaviors of students. Economic theories on education do not put forward a “natural regulation” of the behavior regarding the demand for education, especially when the community is largely taking the costs of studies in charge.

In fact, the development of coping behaviors is sometimes witnessed in students who face a significant drop in their expectations of earnings in the job market. Those behaviors, whose development occurs through a reduction of the time devoted to studies, are individually rational but collectively deviants. This is reflected, no doubt, in the deterioration of the internal efficiency through time which turns, thus, into a warning signal on the adjustment of students to the evolution of the determinants of their studies' performances.

The cost of a graduate considering the current expenditures of the institution and its share in the central services (UNESCO/ Dakar Pole)

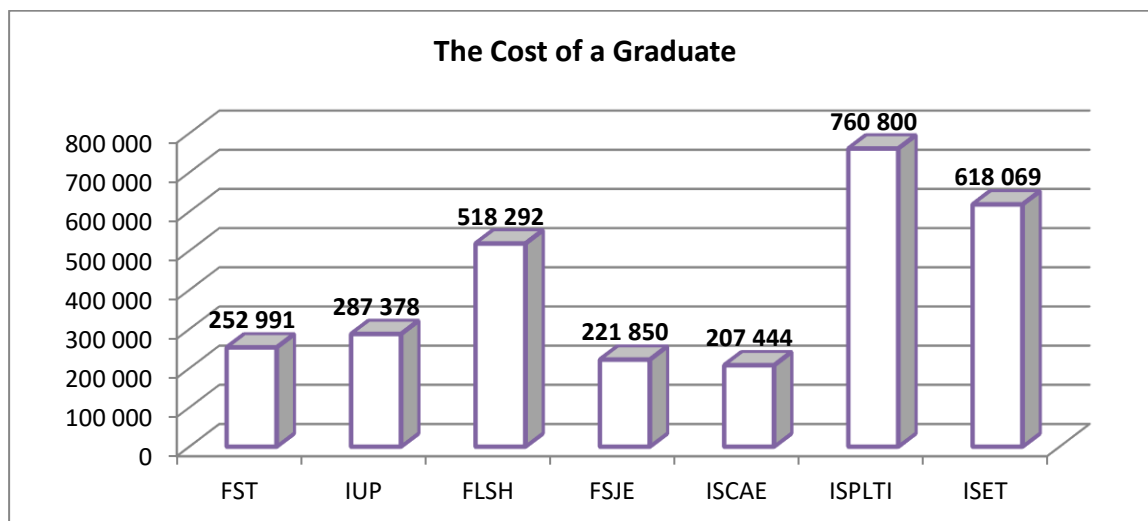


FIGURE 14: THE COST OF A GRADUATE CONSIDERING THE CURRENT EXPENDITURES OF THE INSTITUTION AND ITS SHARE IN THE CENTRAL SERVICES

IV.1.b 2017/2018 per-unit cost (Bis)

The table below shows another method for calculating some internal efficiency indicators, in particular the CEI, by using the actual number of years spent by these graduates. This allows to have another estimate of the cost of the 2015/2016 graduates.

The table below shows another method for the calculation of per-unit costs which does not take the budgets of the central services into account.

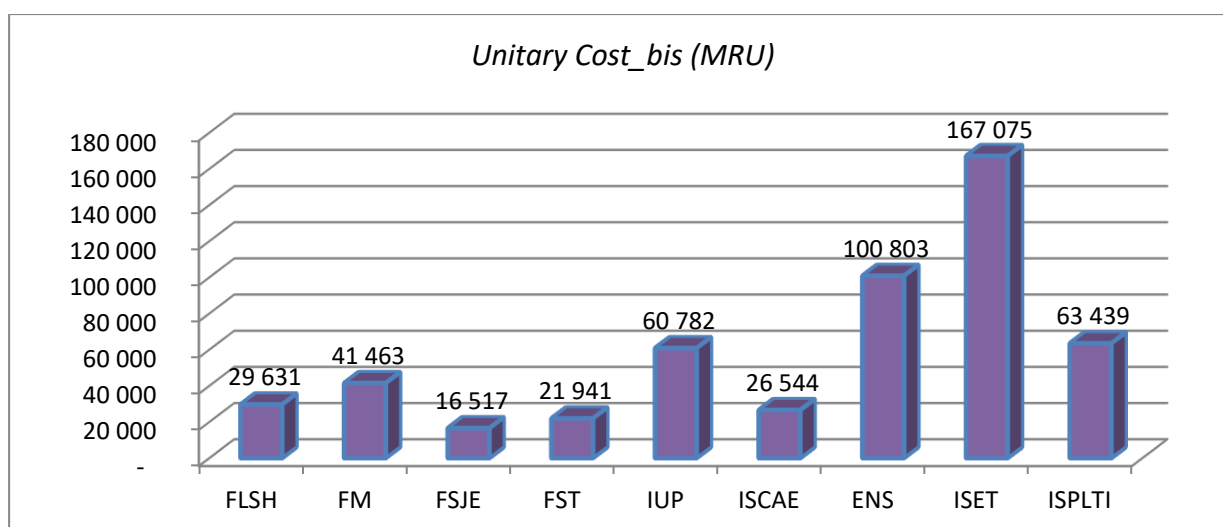


FIGURE 15: 2018 PER-UNIT COST (BIS)

Estimate of the cost of a graduate (Bis)

Institution	Annual per-unit cost of a student (CU)	CEI	CAD=1/CEI	Annual cost of a graduate (CAD*CU)	The cost of a graduate (CAD*CU)*3	Theoretical cost per graduate (CU*3)	Supplementary cost per graduate
FST	21941	0,38	2,6	57 739	173 218	65 823	107 395
IUP	60782	0,74	1,4	82 138	246 413	182 346	64 067
FLSH	29631	0,23	4,3	128 831	386 492	88 893	297 599
FSJE	16517	0,36	2,8	45 881	137 644	49 552	88 092
ISCAE	26544	0,53	1,9	50 082	150 247	79 631	70 616
ISPLTI	63439	0,29	3,4	218 756	656 269	190 318	465 951
ISET	167075	0,86	1,2	194 273	582 820	501 225	81 595

TABLEAU 43: COUT DES DIPLOMES (Bis)

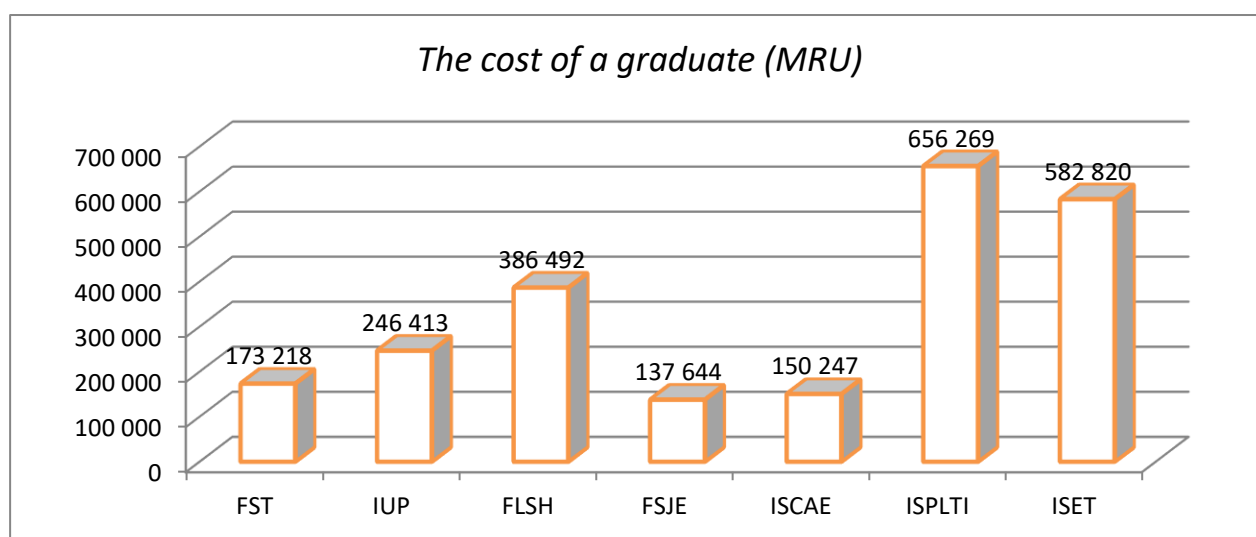


FIGURE 16: THE COST OF A GRADUATE (Bis)

V.1.c Evolution of the percentages of Licence degrees earned in 3 years (2014/2015 and 2017/2018)

Institution	Number of graduates in 3 years				Total number of graduates				Percentage			
	2014/2015	2015/2016	2016/2017	2017/2018	2014/2015	2015/2016	2016/2017	2017/2018	2014/2015	2015/2016	2016/2017	2017/2018
FLSH	227	225	80	?	482	356	258	323	47%	63%	31%	?
FSJE	524	483	170	342	844	795	249	675	62%	61%	68%	51%
FST	205	240	448	402	349	398	540	564	59%	60%	83%	71%
ISCAE	198	257	205	163	260	329	278	164	76%	78%	74%	99%
ISET	56	56	49	69	67	61	60	75	84%	92%	82%	92%
IUP	54	63	80	152	54	68	110	178	100%	93%	73%	85%
TOTAL	1264	1324	1032	1128	2056	2007	1495	1979	61%	66%	69%	57%

TABLE 44: EVOLUTION OF THE PERCENTAGES OF LICENCE DEGREES EARNED IN 3 YEARS (2014/2015 AND 2017/2018)

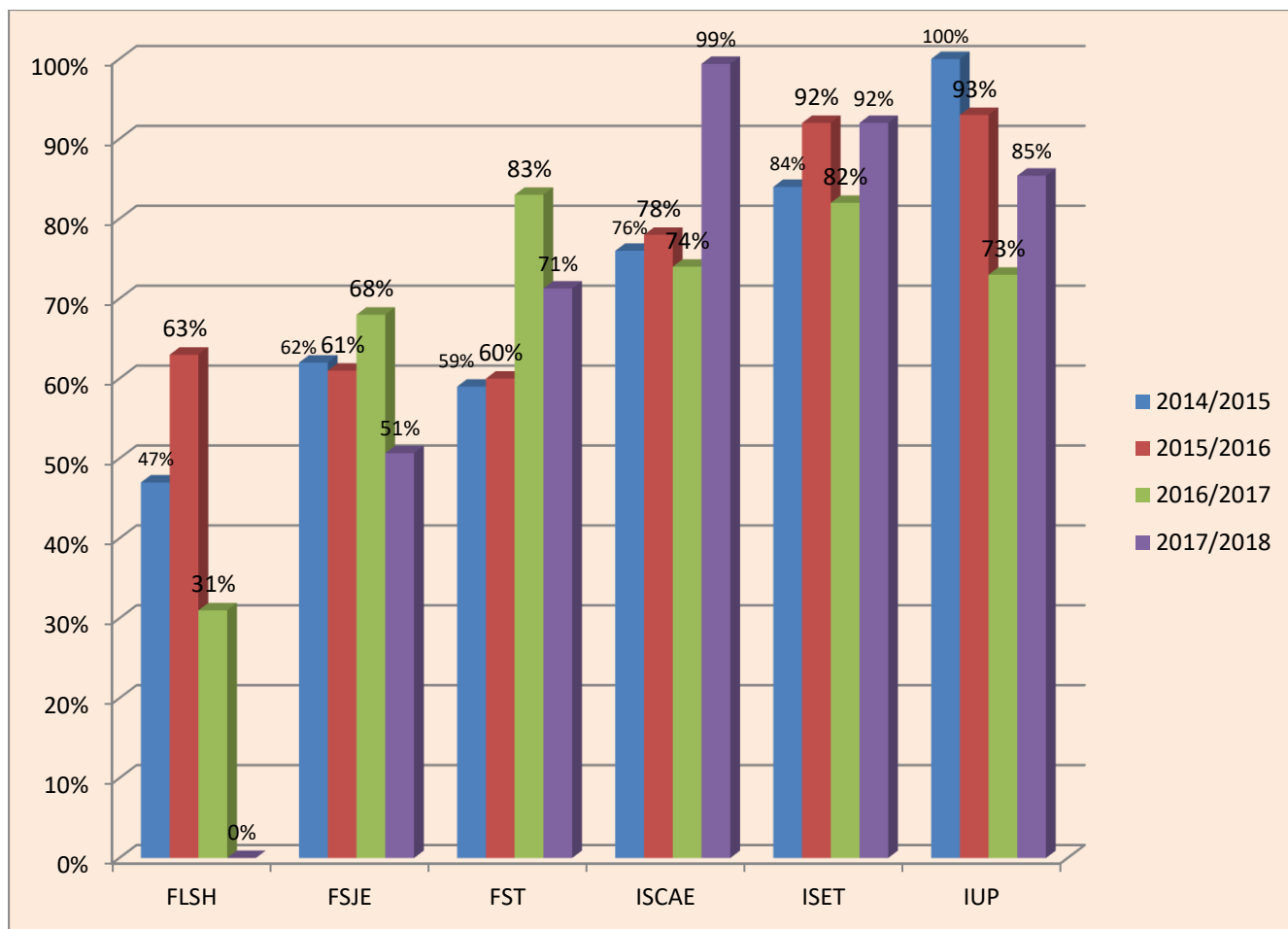


FIGURE 17: EVOLUTION OF THE PERCENTAGES OF LICENCE DEGREES EARNED IN 3 YEARS (2014/2015 AND 2017/2018)

IV.1.d Percentage of higher education students enrolled in professional and technical trainings

Institution		Number of registered students					Number of students registered in professional and technical trainings					Percentage				
		2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018	2018/ 2019	2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018	2018/ 2019	2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018	2018/ 2019
UN	UN- ALASRIYA	9183	8220	12454	12968	16332	264	372	1416	1489	2072	3%	5%	11%	11%	12%
USTM		3958	4635				937	1057				24%	23%			
USIA		625	567	633	764	1061						0%	0%	0%	0%	0%
ENS		538	593	640	601	547	538	593	640	601	547	100%	100%	100%	100%	100%
EMiM	ESP	79	79	438	496	686		79	438	272	443	0%	100%	100%	55%	64%
ESP		156	147				156	147				100%	100%			
ENTP		98	88				98	88				100%	100%			
IPGEI			102					102					100%			
ISET		204	223	234	320	357	204	223	234	320	357	100%	100%	100%	100%	100%
ISCAE		1087	1114	1005	1104	1259	1087	1114	1005	1104	1259	100%	100%	100%	100%	100%
ISERI		3819	3264	2807	2174	2017								0%	0%	0%
AN			27	41	59	102		27	41	59	70		100%	100%	100%	69%
ISPLTI			126	135	169	189		75	135	169	189		60%	100%	100%	100%
CSET		115	162	159	174		115	162	159	174		100%	100%	100%	100%	
ISA				60	108	129								0%	0%	0%
UCM		169	125	174	224	304	0					0%	0%	0%	0%	0%
Sup-Management		54	84	89	51	113	54	84	27	10		100%	100%	30%	20%	0%
GEU L'Académie		111	104	103	152	58	111	102	103	145	58	100%	98%	100%	95%	100%
UIL		248	278	179	235	263	134	197	72		47	54%	71%	40%	0%	18%
A. IBEN YASSIN		356	360	220	245		112	104	37			31%	29%	17%	0%	
Total		20800	20298	19371	19844	23417	3810	4441	4307	4188	5042	18%	22%	22%	22%	22%

TABLE 45: PERCENTAGE OF HIGHER EDUCATION STUDENTS ENROLLED IN VOCATIONAL AND TECHNICAL TRAININGS

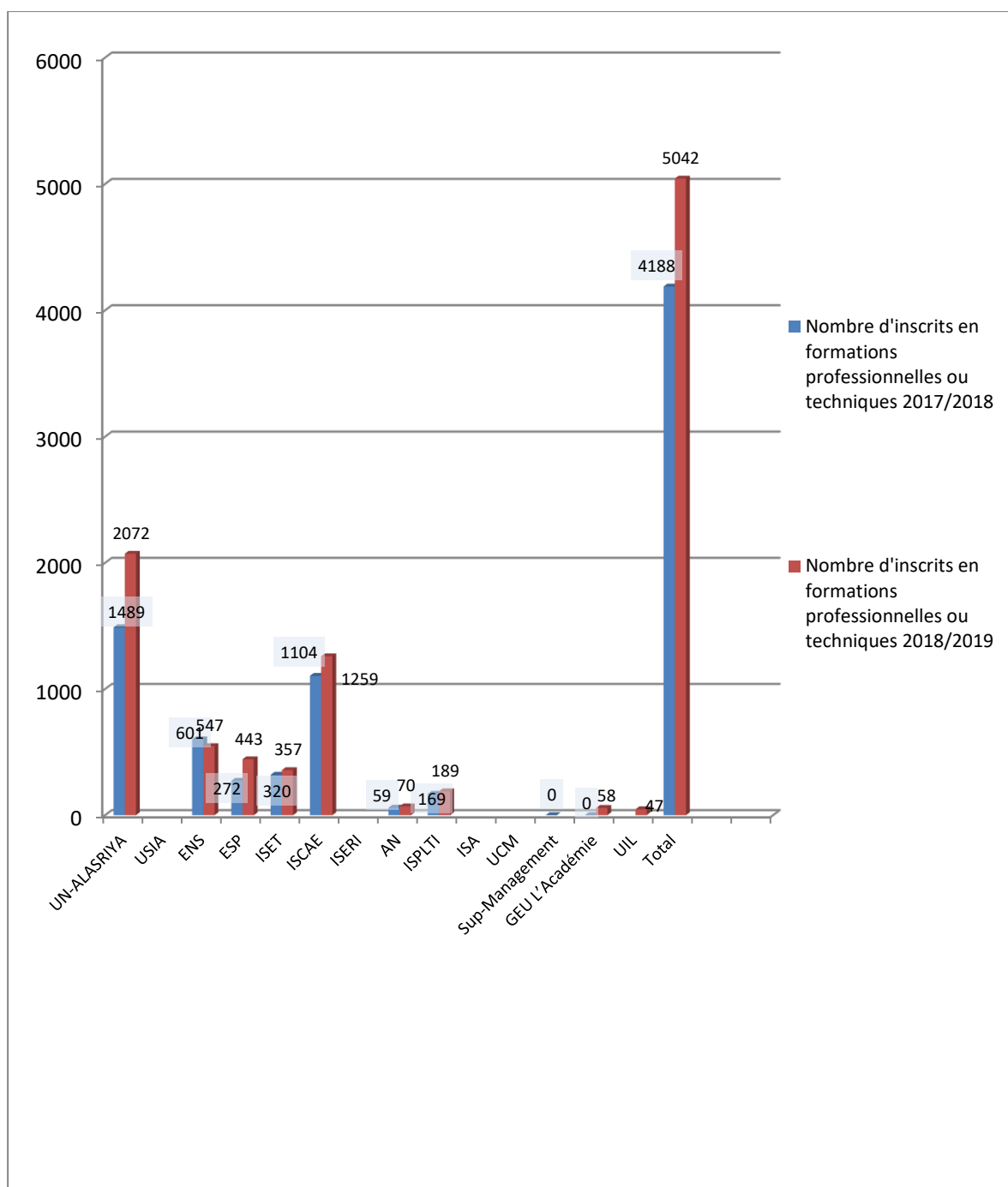


FIGURE 18: EVOLUTION OF THE NUMBER OF STUDENTS ENROLLED IN PROFESSIONAL AND TECHNICAL TRAININGS

IV.1.e Number of professional and technical trainings

Institution	Professional training		
	Licence	Master's degree	Engineering
ESP (Engineering cycle)			5
IS2M	1		
ISMBTU	1		
FLSH	2		
FSJE		2	
FST	8	3	
ISCAE	8		
ISET	5		
IUP	4		
ISPLTI	3		
ISSM	1		
Sup' Management	2	2	
GEU L'Académie	1	1	
TOTAL	36	8	5

TABLE 46: NUMBER OF PROFESSIONAL AND TECHNICAL CURRICULA

V . Teaching and non-teaching staff

V.1 Distribution of teachers by age group and gender

Age groups	Numbers
25 to 29 years	1
30 to 34 years	14
35 to 39 years	49
40 to 44 years	87
45 to 49 years	110
50 to 54 years	173
55 to 59 years	174
60 to 64 years	123
65 years	12
NR	21
Total	764

TABLE 47: DISTRIBUTION OF TEACHERS BY AGE GROUP AND GENDER

Comments: At least seven (7) teachers will retire within one year, whereas at least 99 others will retire within the five following years.

V.2 Distribution of the administrative and technical staff by position (*)

Institutions	GENDRE	Dean	Vice Dean	President	Vice President	Secretary General	Head of Department	Director	Directeur Adjoint	Coordinateur	Head of Service	Head of Division	Administrator	Other Executives	GD Secretary	Secretary	Librarian	Accountant	Security Agent	Other Agents	Supervisor	Driver	Cook	Electrician		Office worker	IT Specialist	Gardien	Laboratory Assistant	Laborer	Clerk	Technician	ND	Total
																								Plumber										
Presidency of the UNA	T			1	3	1	1	2			1	15	33			63	1		10	23		4		4		1	8			14				185
	F										3	8	3			56	1			1		1				1				1				75
CNOU	T																																	0
	F																																	
FSJE	T	1	1				5	2		10	2		14			38	3	1	8	22		1				10	9	4		12				143
	F												3			33		1		3						10								50
FLSH	T	1	1			1	9	1		28	5	8	5			26	2			35		1			1	1		2		6	1	89	222	
	F										2	4	2	3		23				1						2						3	40	
FST	T	1	1			1	5				4	9		1		5				41		1									16	1	86	
	F											1				5				17											6	1	30	
IUP	T							1			1					2	1	1	1	10										1	1		18	
	F										1					2				1													4	
FM	T	1	1								5		2			5	3		10	2									3	5			35	
	F												2			5	2		1									1					11	
ISCAE	T					1	2	2	1				2			2	1	1	1	1	1									1				16
	F												1			2	1																	4
IPGEI	T							1	1		1			2					1	7	1				2									15
	F																			1	1				2									4
ISA	T												3							5		3					2							13
	F												3							1						1								5

Institutions	GENDRE	Dean	Vice Dean	President	Vice President	Secretary General	Head of Department	Director	Directeur Adjoint	Coordinateur	Head of Service	Head of Division	Administrator	Other Executives	GD Secretary	Secretary	Librarian	Accountant	Security Agent	Other Agents	Supervisor	Driver	Cook	Plumber	Electrician	Office worker	IT Specialist	Gardien	Laboratory Assistant	Laborer	Clerk	Technician	ND	Total	
ESP	T						5	2	1	1			6													2							0		17
	F						1	1					1																				0		3
ENS	T							2	1		4	8		11		4	17	1		5	6	2		2	1		4	3	9	2	0			82	
	F										2	1		4		3	8			3	2				1			2	2		0			28	
ISET	T					1	4	2	1	4	2			3					11	8												0	76	112	
	F																															0	20	20	
ENTP	T							2					1	5	1	2		2	3		1	4							2		4	0		27	
	F														1	2															0			3	
FOD	T	1					1	1		1																						0		3	
	F																															0		0	
ISERI	T					1		2			6	15	18	16		48	10	1	2	99	56	4		2			39		10		1			330	
	F										6	7				31	5		1	45	24						2		6		0			127	
Total	T	5	4	1	3	6	32	20	5	44	31	55	84	38	1	195	38	7	47	258	65	20	0	9	15	21	47	7	22	45	19	166	1310		
	F	0	0	0	0	0	1	1	0	0	8	20	22	7	1	162	17	1	2	73	27	1	0	0	16	1	2	2	9	1	6	24	404		

TABLEAU 48: REPARTITION DU PERSONNEL ADMINISTRATIF ET TECHNIQUE PAR FONCTION

(*) The data is neither complete nor exhaustive but provide an indication of the distribution of the human resources by position. They relate to the following institutions: the University of Nouakchott; the University of Science, Technology, and Medicine (in exception of the Presidency Staff); the National Center for University Services; the Higher Institute of Accounting and Business Administration; the Teachers College; the National School of Public Works; the Faculty of Oussoul Eddine; and the Advanced Technical Education Center of Nouakchott.

VI. Partnership

VI.1 Enrolled Foreign students by nationality and field of study

HOME COUNTRY	Letters and arts	Healthcare and social protection	Sciences	Social sciences, commerce, and Law	Total
Afghanistan	1				1
Algeria	10	3		1	14
Germany			1		1
Saudi Arabia	3				3
Austria			1		1
Burkina Faso	4		1	2	7
Cameroon		1			1
China			1		1
Ivory Coast	6			2	8
Egypt		1			1
France		1	4		5
Guinea	1			1	2
Irak		1		1	2
Latvia	1				1
Lebanon	1			2	3
Mali	11		2	21	34
Morocco	81	18			99
Palestine	1	2		3	6
Syria	5	3	2	3	13
Togo				2	2
Tunisia	12	37			49
Turkey			1		1
Yemen	2	13	2		17
Senegal	11			2	13
Sudan	1				1
Niger				1	1
Indonesia	1				1
Somalia	1				1
Gambia	45				45
Ghana	1				1
Kyrgyzstan	2				2
Libya	3				3
ND	1			1	2
Total	205	80	15	42	342

TABLE 49: ENROLLED FOREIGN STUDENTS BY NATIONALITY AND FIELD OF STUDY

Attractiveness: The table above shows that Letters and arts is the most attractive field of study for foreign students followed by the field of Social Sciences, Commerce, and Law.

 Home countries of the majority of foreign students

VII. University services

VII.1 Evolution of the number of scholarship students and aid recipients

Institution	Scholarship students and aid recipients		
	2017/2018	2018/2019	Ecart
CNOU	5447	5888	-8%
USIA	319	442	-39%
ENS	510	445	13%
ESP	496	686	-38%
ISET	215	206	4%
ISERI	254	271	-7%
AN	59	102	-73%
TOTAL	7474	8040	-8%

TABLE 50: EVOLUTION OF THE NUMBER OF SCHOLARSHIP STUDENTS AND AID RECIPIENTS

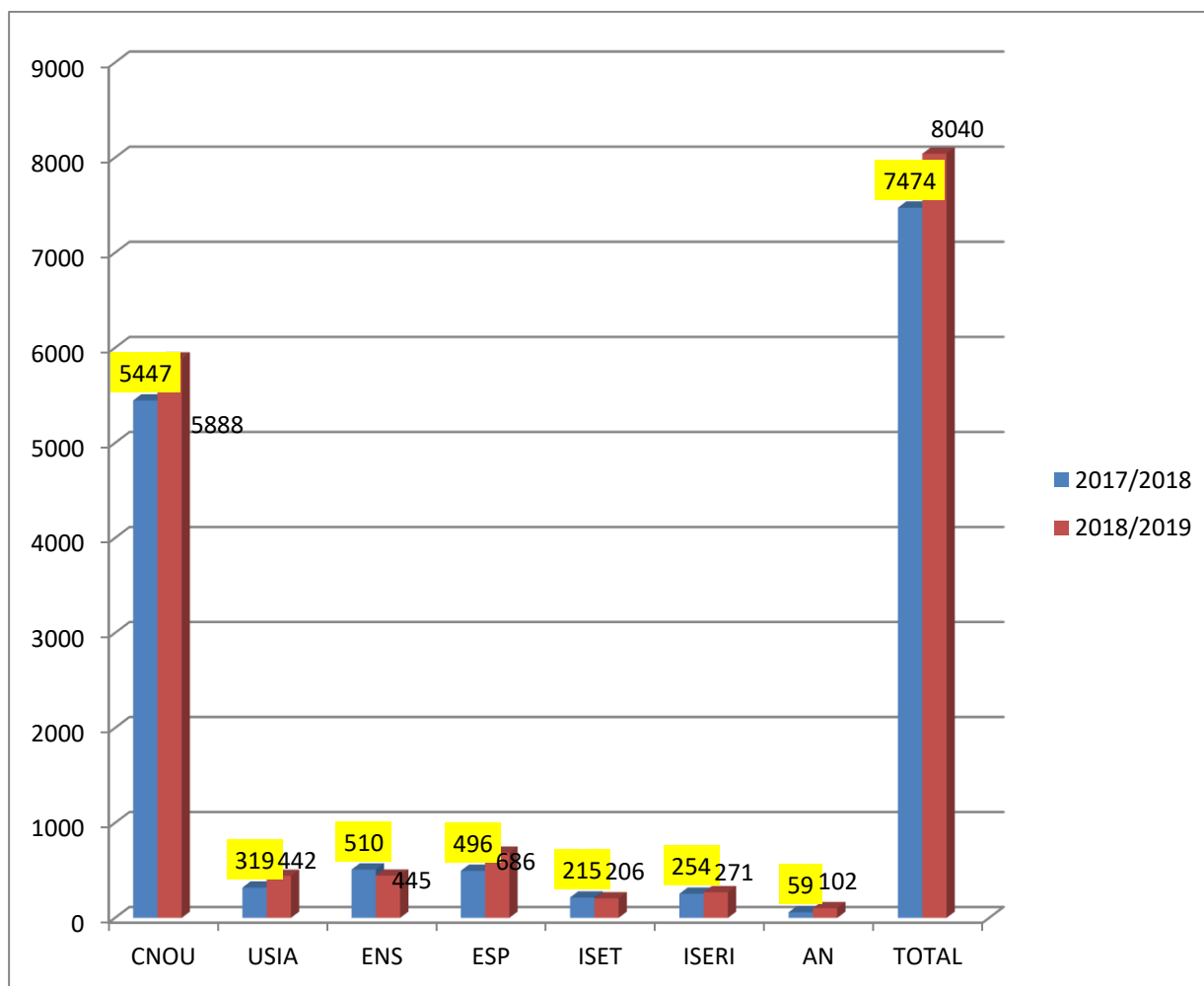


FIGURE 19: EVOLUTION OF THE NUMBER OF SCHOLARSHIP STUDENTS AND AID RECIPIENTS

VII.2.a The National Center of University Services

Institution	Total number of Scholarship students
FLSH	647
FM	1019
FSJE	1448
FST	1801
ISCAE	463
ISPLTI	48
IUP	337
ISAanglais	125
TOTAL	5888

TABLE 51: SCHOLARSHIP STUDENTS OF THE CNOU

VII.2.b Others outside the competence of the CNOU

Institutions	Total boursiers ou bénéficiaires d'aides
USIA	442
ENS	445
ESP	686
ISET	206
ISERI	271
AN	102
TOTAL	8040

TABLE 52: SCHOLARSHIP STUDENTS OR AID RECIPIENTS _OUTSIDE THE COMPETENCE OF THE CNOU

VII.3 ACCOMODATION

CNOU Service

Number of residences	Capacity (Number of places)	Number of housed
2	95	190

TABLE 53: ACCOMODATION_CNOU

VII.4 FOOD SERVICE

CNOU Service

Number of restaurants	Number of served meals per year	Number of beneficiaries	Proportion of beneficiaries	Dishes/students ratio per year
4	352339	340384	2431	276196/217

TABLE 54: FOOD SERVICE WITHIN THE COMPETENCE OF THE CNOU

VII.5 UNIVERSITY TRANSPORT

CNOU Service

DATES	NUMBER OF BUSES	NUMBER OF COMPLETED ROTATIONS	NUMBER OF INCOMPLETE ROTATIONS	NUMBER OF STUDENTS
01/10/2018 ou 30/06/2019	7949	23710	243	1669671

TABLE 55: UNIVERSITY TRANSPORT BY THE CNOU SERVICE

VIII. Relevance and External efficiency

In general, there is a discrepancy between the training courses in higher education and the needs of the Francophone Africa's economies.

The development strategies adopted by African's Francophone countries revolve around a number of economic diversification sectors fostering their mid and long-term growth. The analysis of the sectoral strategies of fourteen (14) countries of Francophone Africa identifies about (10) grapes recognized as priority sectors for the economic development of the region:

1. Agriculture, forestry, livestock, and agribusiness industries;
2. Fishery and aquaculture;
3. Transport and Logistics;
4. Information and Communication Technologies (TIC), Mechanics and Electronics;
5. Mines and hydrocarbons;
6. Tourism and craft trades;
7. Construction and Construction materials' manufacturing industries;
8. Cotton and Clothing, and Textile Industries;
9. Energy;
10. Health.

The implementation of these strategies will require recruiting a critical mass not only of senior executives and engineers but above all of middle level executives trained in these various fields. However, the majority of the existing trainings relate to social sciences, commerce, law, letters and human sciences. Thus, students are oriented towards curricula poorly promising in terms of employment, and unsuitable for the needs of the country in terms of economic development. This mismatch between the training fields and the needs of the economies of Francophone African countries is reflected in low integration levels of young graduates and high unemployment rates (*)

(*) Source: National Dialogue on the Future of Higher Education in Senegal

VIII.1 Percentage of higher education graduates from professional and technical trainings

Institution	Graduates	Professional training	Percentage
FLSH	323		0%
FSJE	675		0%
FST	564	211	37%
ISCAE	164	164	100%
ISET	75	75	100%
IUP	178	178	100%
FM	56		0%
ESP	74	74	100%
FC	84		0%
FLASS	48		0%
FOE	20		0%
ENS	286	286	100%
ISERI	314		0%
ISPLTI	11	11	100%
ISSM	10	10	100%
Total	2882	1009	35%

TABLE 56: PERCENTAGE OF HIGHER EDUCATION GRADUATES FROM PROFESSIONAL AND TECHNICAL TRAININGS

VIII.2 Distribution of graduates by field of study

General field of study	Specialized field of study	2014/2015	2015/2016	2016/2017	2017/2018
Education	Education	196	265	320	286
Letters and arts	Languages	155	134	124	75
	Letters	235	345	589	409
Social sciences, Journalism and information	Social and Behavioral Sciences	611	730	270	499
	Journalism and information	35	41	201	120
Commerce, Administration and Law	Commerce and administration	282	195	203	155
	Law	692	475	165	351
Natural sciences, Mathematics, and Statistics	Biology and related disciplines	73	91	145	130
	Physical Sciences	329	223	251	242
	Mathematics and statistics	117	74	132	185
	Environment			9	21
Information and communication Technologies (TIC)	Information and communication Technologies (TIC)	225	170	167	177
Engineering, Processing and Construction Industries	Engineering and related techniques	9	110	134	49
	Architecture and Building	36	22	11	23
Agriculture, Forestry, Fish Industry and Veterinary sciences	Agriculture	40	40	24	36
	Veterinary sciences	10	8	13	17
Services	Personal Services	19	0		
	Transport Services	26	22	29	51
Health and social protection	Health	14	12	26	56
ND	ND	0	14		0
TOTAL		3104	2971	2813	2882

TABLE 57: DISTRIBUTION OF GRADUATES BY FIELD OF STUDY

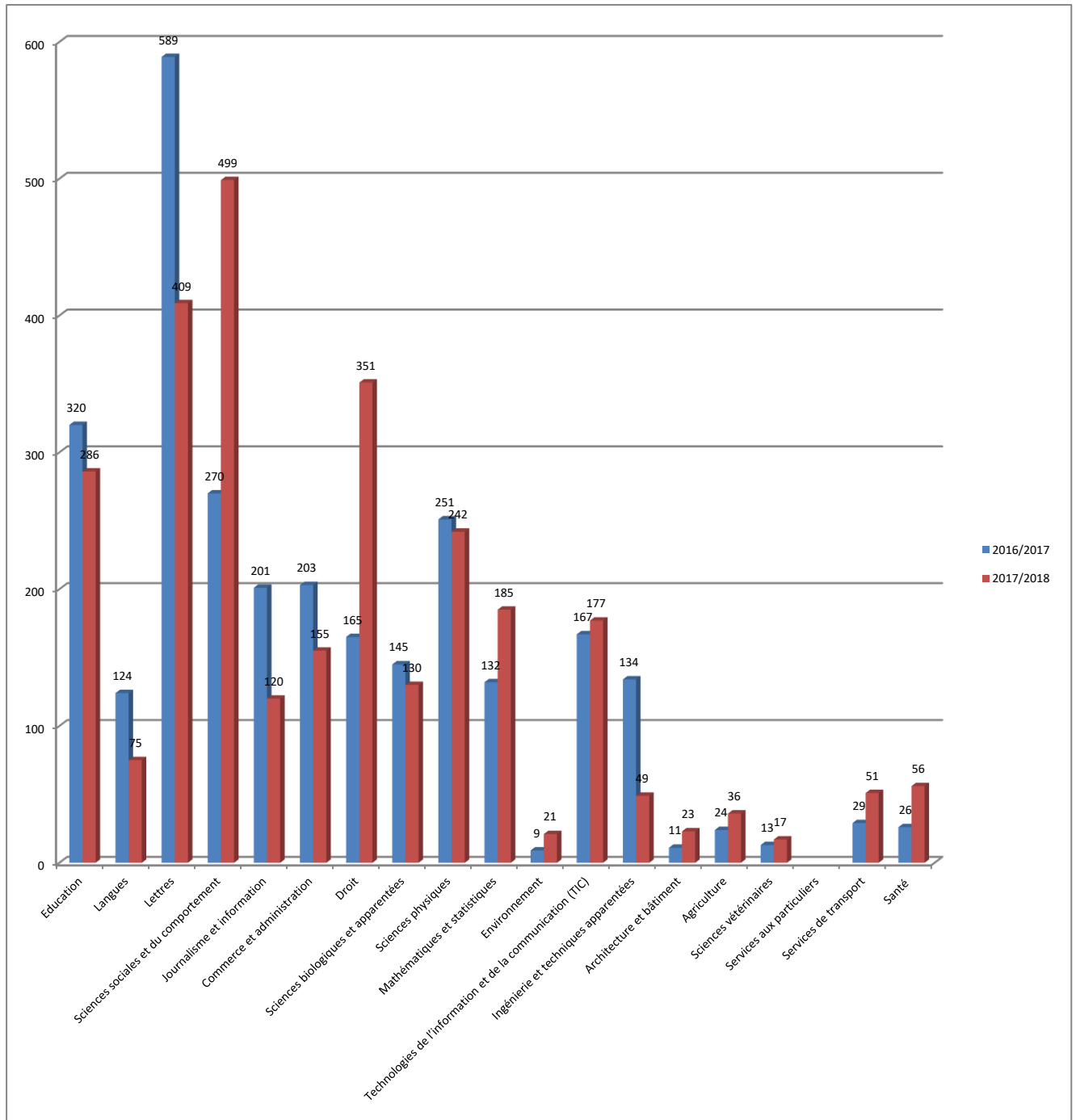


FIGURE 20: DISTRIBUTION OF GRADUATES BY FIELD OF STUDY

VIII.3 Share of MST training students in proportion of the student body

Number of registered students	Total number of students registered in MST trainings	Percentage
23417	7896	34%

TABLE 58: MST TRAINING STUDENTS IN PROPORTION OF THE STUDENT BODY

IX. Higher Education Establishments (IES) and Students

IX.1 Distribution of IES by type and status

Type of establishment	Number	Including private
Universities	5	3
Faculties	8	0
Schools	3	1
Institutes	5	0

TABLE 59: DISTRIBUTION OF IES BY TYPE AND STATUS

IX.2 Distribution of students by field of study

Field of study	Number of students				
	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019
Education	544	621	655	621	547
Social sciences, Commerce, and Law	8543	7692	7517	7413	9474
Letters and arts	6252	5982	4843	4865	5168
Services	145	60	204	236	332
Sciences	3481	4276	4484	4947	6031
Health and social protection	857	1012	973	1092	1193
Agriculture	106	100	115	511	156
Engineering, Processing and Construction Industries	484	502	579	158	516
ND	388	53	1	1	
TOTAL	20800	20298	19371	19844	23417

TABLE 60: DISTRIBUTION OF STUDENTS BY FIELD OF STUDY

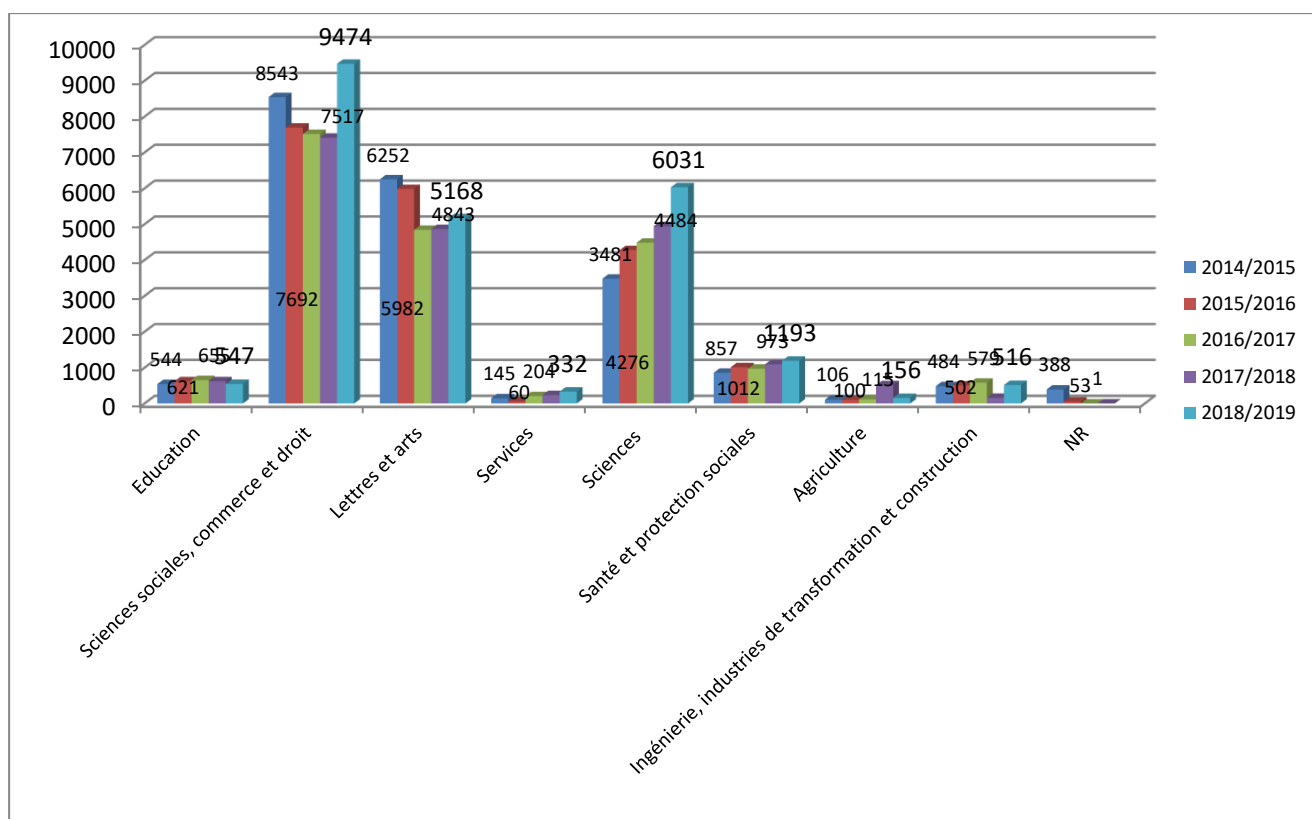


FIGURE 21: DISTRIBUTION OF STUDENTS BY FIELD OF STUDIES

IX.3 Distribution of students by field of study and status

Fields of study	Public		Private		Total	
	T	F	T	F	T	F
Social sciences, Commerce, and Law	9141	3875	333	171	9474	4046
Sciences	5970	2083	61	18	6031	2101
Letters and arts	4824	1658	344	99	5168	1757
Health and social protection	1193	478			1193	478
Education	547	111			547	111
Engineering, Processing and Construction Industries	516	73			516	73
Services	332	134			332	134
Agriculture	156	36			156	36
Total	22679	8448	738	288	23417	8736

TABLE 61: DISTRIBUTION OF STUDENTS BY FIELD OF STUDY AND STATUS

IX.4 Distribution of students by field of study and level

FIELD OF STUDY	LMD										Others			Total
	L1	L2	L3	M1	M2	D1	D2	D3	D4	D5	1A	2A	3A	
Social sciences, Commerce, and Law	4746	1518	1532	953	705	2				16				9472
Sciences	3192	1154	959	219	159	50	21	30	7		133	110		6034
Letters and arts	2573	1062	1019	281	224					8				5167
Health and social protection	274	155	200	172	131	160	101							1193
Services	155	70	75								14	18		332
Agriculture		51	35								44	14	12	156
Education											245	302		547
Engineering, Processing and Construction Industries		40	33								278	110	55	516
Total	10940	4050	3853	1625	1219	212	122	30	7	24	714	554	67	23417

TABLE 62: DISTRIBUTION OF STUDENTS BY FIELD OF STUDY AND LEVEL

IX.5 A low development of scientific and technological trainings ...

The study entitled “Higher education reforms in Africa: Elements of the general framework” made by the Dakar Pole in 2008 reveals that the distribution of students per existing training courses shows that more than half of the students (55%) are registered in faculties or schools offering training courses in Human or Social Sciences in 24 African countries for which the related data are available⁽¹⁾. The dominant training courses are Social Sciences and Law which recruit, alone, an average of 42% of the students. By contrast, only one student out of four is registered in a scientific or technological training course. The UNESCO Institute of Statistics (UIS, 2006) concludes that short professional higher education is particularly developed in sub-Saharan Africa as it hosted 28% of the students in 2005 as opposed to 19% at the world level. It is, however, rather more developed in Anglophone Africa than in Francophone Africa. For example, it involves 57% of the students in Mauritius, 56 % in Sierra Leone, 49% in Lesotho, 41 % in Nigeria and Zambia, 39 % in Namibia, whereas it involves but 35 % of the students in Rwanda, 32 % in The Comoros, 23 % in Senegal, 18 % in Madagascar, and only 5 % in Mali and Mauritania⁽¹⁾. This study displays the following average numbers for the 24 countries: 22.7% in Science and Technology; 41.6% in Social Sciences, Commerce, and Law; 13.5% in Letters and Human Sciences; and 22.1% in other training courses.

⁽¹⁾ Source: Higher education reforms in Africa : Elements of the general framework. Dakar Pole (UNESCO-BRED).

IX.5.a Distribution of higher education students by field of study for some African countries, in percentage, for the year 2006 or around*

Country	Year	Science and Technology	Social sciences, commerce, and Law	Letters and Human Sciences	Other Training Courses
Mauritania	2019	33,7	40,4	22,1	3,8
Mauritania	2018	33,8	37,4	24,5	4,3
Mauritania	2017	31,8	38,8	25	4,4
Mauritania	2016	29	37,9	29,D5	3,6
Mauritania	2015	23,7	41,1	30,1	5,2
The Comoros	2003	10,7	38,4	29,4	21,5
Uganda	2004	12,1	40,3	5,3	42,3
Burundi	2004	13,3	28,2	14,1	44,4
Congo	2007	14,2	33,8	27,3	24,6
Lesotho	2006	14,6	34	9	42,4
Swaziland	2006	14,9	45,5	21,1	18,5
Namibia	2003	15	41	3,6	34,5
Botswana	2005	17,3	24,8	25,7	32,3
Algeria	2006	20,3	38,9	17,5	23,3
Madagascar	2006	20,8	57,7	11,2	10,4
South Africa	2006	21,7	52,9	4,9	20,5
Morocco	2006	22,4	53	17,6	7
Sierra Leone	2005	23	11	18,1	47,9
Ethiopia	2007	23,5	36,9	2,9	36,7
Mauritius	2006	24,3	35,2	19,3	19,4
Cameroon	2006	25,2	64,5	7,7	2,6
Burkina Faso	2006	25,6	53,2	11,5	9,7
Tunisia	2006	28,2	17,5	20	34,2
Djibouti	2006	28,5	43,9	23,3	4,3
Mozambique	2005	29	43,9	11,1	16
Tanzania	2004	29	20,2	7,1	26,8
Ghana	2004	30,5	12	39,1	18,4
Guinea	2006	34,2	32	11,1	13,2
Eritrea	2004	46,2	23,7	1,8	28,3

TABLE 63: DISTRIBUTION OF HIGHER EDUCATION STUDENTS BY FIELD OF STUDY FOR SOME AFRICAN COUNTRIES, IN PERCENTAGE

* Countries are classified in ascending order of students registered in scientific/technological training courses.

**Weighted mean

Source: ISU data and national data for some countries.

IX.5.b Distribution of students by level and status

		LMD										Others			TOTAL
		L1	L2	L3	M1	M2	D1	D2	D3	D4	D5	1A	2A	3A	
public	T	11116	4111	3737	1525	1102	183	181	30	7	24	311	350	1	22678
	F	4437	1581	1327	473	353	60	68	7	2	5	76	59		8448
private	T	227	142	83	128	158									738
	F	93	61	31	39	64									288
TOTAL	T	11343	4253	3820	1653	1260	183	181	30	7	24	311	350	1	23416
	F	4530	1642	1358	512	417	60	68	7	2	5	76	59	0	8736

TABLE 64: DISTRIBUTION OF STUDENTS BY LEVEL AND STATUS

IX.6 Number of scholarship students abroad by level

	1A	2A	3A	4A	5A	6A	7A	M1	M2	D	CES	TOTAL
Total	155	102	110	129	111	68	70	55	177	140	19	1136
Female students	29	25	23	20	24	20	13	11	37	23	3	228

TABLE 65: NUMBER OF SCHOLARSHIP STUDENTS ABROAD BY LEVEL

IX.8 Evolution of the number of students by higher education institution (2014/2015 et 2018/2019)

Institutions		2014/2015		2015/2016		2016/2017		2017/2018		2018/2019	
		Number	Female students	Number	Female students	Number	Female students	Number	Female students	Number	Female students
<i>UN</i>	<i>UN-ALASRIYA</i>	9183	3235	8220	2890	12454	4208	12968	4527	16332	6208
<i>USTM</i>		3958	1261	4635	1524						
<i>USIA</i>	<i>USIA</i>	625	154	567	176	633	208	764	318	1061	495
<i>ENS</i>	<i>ENS</i>	538	77	593	70	640	73	601	84	547	111
<i>EMiM</i>	<i>ESP</i>	79	14	79	13	438	71	496	98	686	125
<i>ESP</i>		156	18	147	15						
<i>ENTP</i>		98	4	88	3						
<i>IPGEI</i>				102	21						
<i>ISET</i>	<i>ISET</i>	204	11	223	16	234	19	320	28	357	27
<i>ISCAE</i>	<i>ISCAE</i>	1087	540	1114	598	1005	557	1104	629	1259	752
<i>ISERI</i>	<i>ISERI</i>	3819	1156	3264	971	2807	894	2174	731	2017	608
<i>AN</i>	<i>AN</i>			27	0	41	2	59	5	102	23
<i>ISPLTI</i>	<i>ISPLTI</i>			126	55	135	49	169	69	189	73
<i>CSET</i>	<i>CSET</i>	115	15	162	21	159	26	174	26		
<i>ISA</i>	<i>ISA</i>					60	10	108	25	129	26
<i>UCHM</i>	<i>UCHM</i>	169	16	125		174	21	224	43	304	73
<i>SUP-m</i>	<i>SUP-m</i>	54	28	84	36	89	35	51	20	113	42
<i>UGAC</i>	<i>UGAC</i>	111	75	104	52	103	52	152	72	58	27
<i>ULI</i>	<i>ULI</i>	248	116	278	141	179	92	235	135	263	146
<i>UAY</i>	<i>UAY</i>	356	86	360	83	220	45	245	36		
TOTAL		20800	6806	20298	6685	19371	6362	19844	6846	23417	8736

TABLE 66: NUMBER OF STUDENTS BY INSTITUTION

IX.9 Distribution of students by level and age

Age	L1/1A		L2/2A		L3/3A		M1		M2		D1		D2		D3		D4		D5		Total			
	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F		
< 18 years	108	49	21	8																	129	57		
18 years	295	150	25	9	5	4											1	1			326	164		
19 years	878	422	142	71	303	73											1				1324	566		
20 years	1506	669	349	178	84	44											9	5	1	1	1949	897		
21 years	1696	695	484	227	201	103											23	11	4		2408	1036		
22 years	1814	708	596	232	339	159											52	30	18	10	2819	1139		
23 years	1704	614	661	239	466	183	2										120	54	41	20	2994	1110		
24 years	1379	466	640	205	548	181	13	6									187	73	83	31	2850	962		
25 years	1022	350	456	146	586	170	31	10	3	1							210	66	129	45	2437	788		
26 years	386	144	335	121	403	118	33	18	17	7	1						176	64	132	56	1483	528		
27 years	268	96	244	82	307	109	50	16	19	8	3	1					143	46	150	45	1184	403		
28 years	151	63	138	51	176	55	28	11	12	4	6	2	1				112	31	99	38	723	255		
>28 years	432	177	506	129	501	191	55	19	71	25	20	4	6	2	23	4	476	112	557	146	2647	809		
ND	15	3	7	3	1	1											1	1	115	13	5	1	144	22
Total	11654	4606	4604	1701	3920	1391	212	80	122	45	30	7	7	2	24	5	1625	506	1219	393	23417	8736		

TABLE 67 : DISTRIBUTION OF STUDENTS BY LEVEL AND AGE

IX.10 Distribution of students bu age and gender

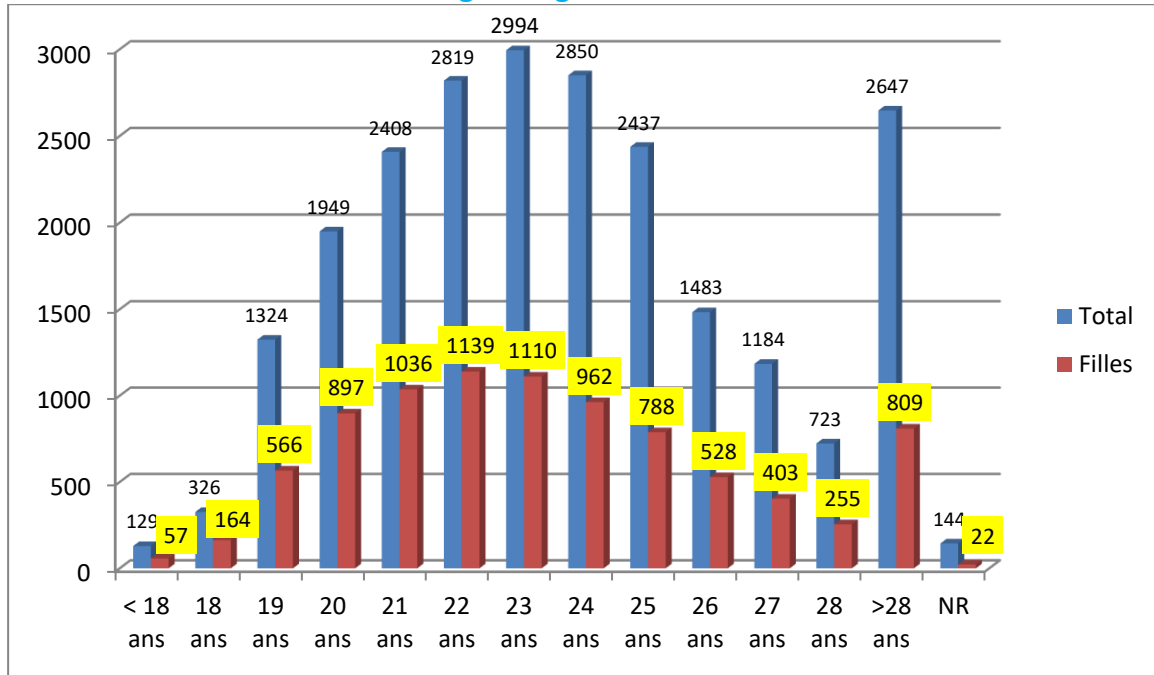


FIGURE 22: DISTRIBUTION OF STUDENTS BY AGE AND GENDER

X. Research

X.1 Research facilities

X.1 a Distribution of research facilities by institution

In 2015, Mauritania had 53 research facilities (4 laboratories and 49 research units) distributed as follows:

Institutions	Number of facilities
FST	23
FM	2
FLSH	15
FSJE	6
ENS	7
Total	53

TABLE 68: DISTRIBUTION OF RESEARCH FACILITIES BY INSTITUTION

Source: 2010-2015 Situation of scientific research in higher education institutions /DRSI/MHESR 2016

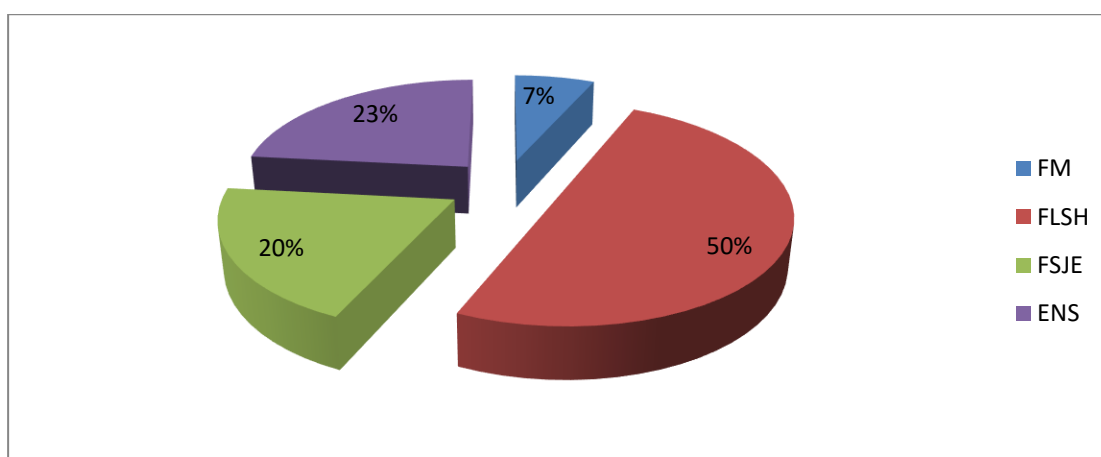


FIGURE 8: DISTRIBUTION OF RESEARCH FACILITIES BY INSTITUTION

X-1.b Distribution of research facilities by institution and department

Institution	Department	Total
FST	Biology	6
	Physics	4
	Geology	3
	Chemistry	5
	Maths / Computer science	5
	Total1	23
FM	Public health	2
FLSH	Arabic Language and Literature	6
	French Language and Literature	2
	Philosophy and sociology	2
	History and civilization	3
	Geography	2
	Total2	15
FSJE	Public law	1
	Private law	1
	Economics/ Management	4
	Total3	6
ENS	Hard sciences	2
	Educational studies	2
	Languages	1
	Human sciences	2
	Total4	7
Total		53

TABLE 69: DISTRIBUTION OF RESEARCH FACILITIES BY INSTITUTIONS AND DEPARTMENT

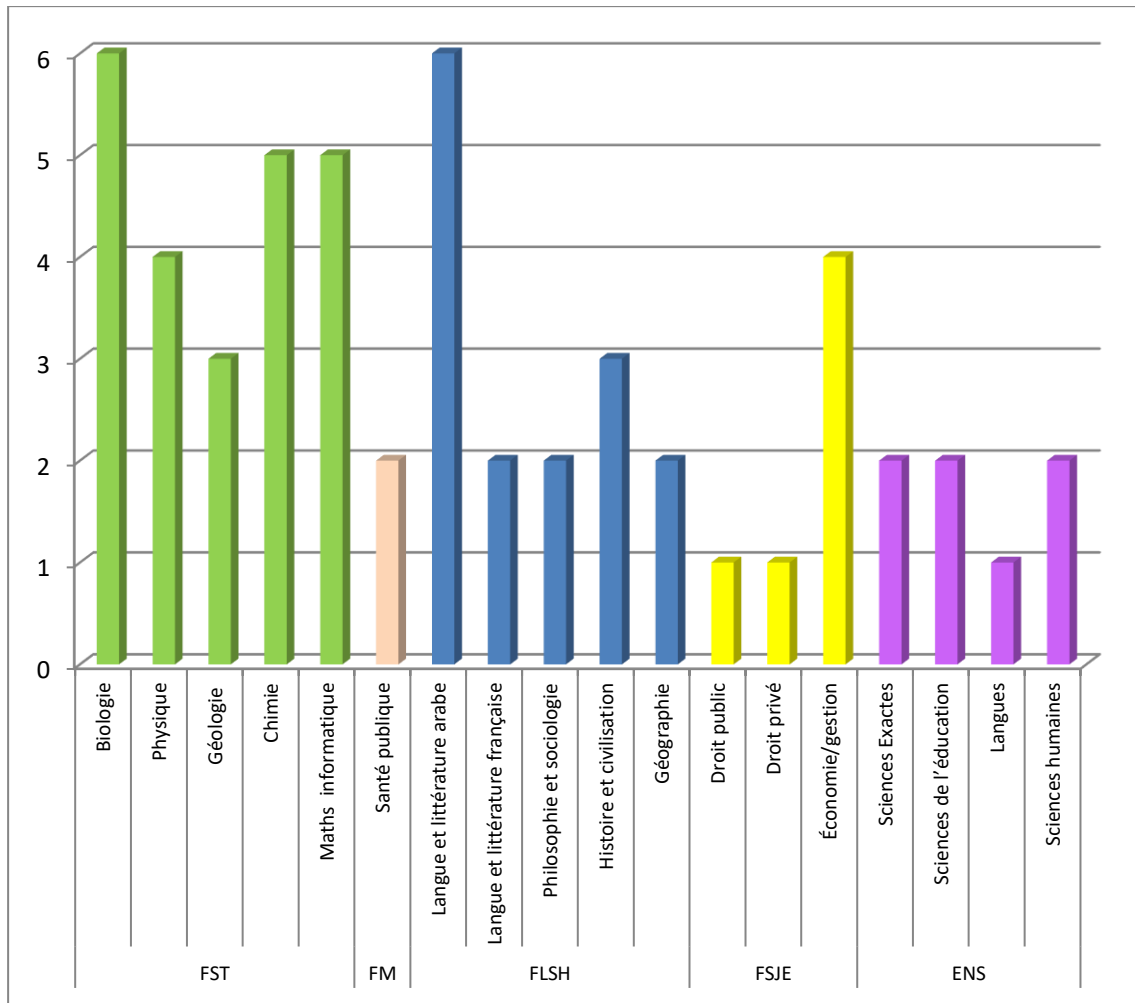


FIGURE 24: DISTRIBUTION OF RESEARCH FACILITIES BY INSTITUTIONS AND DEPARTMENT

The Statistics presented in what follows relate to 47 research facilities. The six other units are: two (2) units in Biology, two (2) units in Geology, one (01) unit in public health, and one (01) unit in Mathematics.

X.2 Teachers-researchers involved in research facilities

The investigation of the DRSI shows that 263 teachers-researchers are involved in research facilities.

The analysis by grade reveals strong disparities in this involvement. The highest involvement rate in research facilities (83.1%) is found among teachers-researchers with the grade of Accredited Research Director (PH). This trend could be justified by the involvement of many of them in the preparation of their habilitation abroad; this, as a result, leads them to commit themselves to research and supervision of Masters' theses and doctoral dissertations.

With an involvement rate of 62.5%, University Professors (PU) are less involved in research facilities than Accredited Research Directors (PH). Many teachers-researchers of the former category have been promoted before the implementation of the new status through seniority and diplomas and not necessarily through their involvement in research.

The lowest rates are found among teachers-researchers in their early careers with a rate of 30.2% among Assistant Professors (MA) and 43% among Associate Professors (MC). These rates of involvement in research are alarming.

X.2.a. Size per discipline

The average size of research facilities is 6.1 teachers-researchers (maximum=8.8; minimum=3) including for each one of them 2.8 teachers-researchers with the grade of University Professor (maximum=5.5; minimum=1.5)

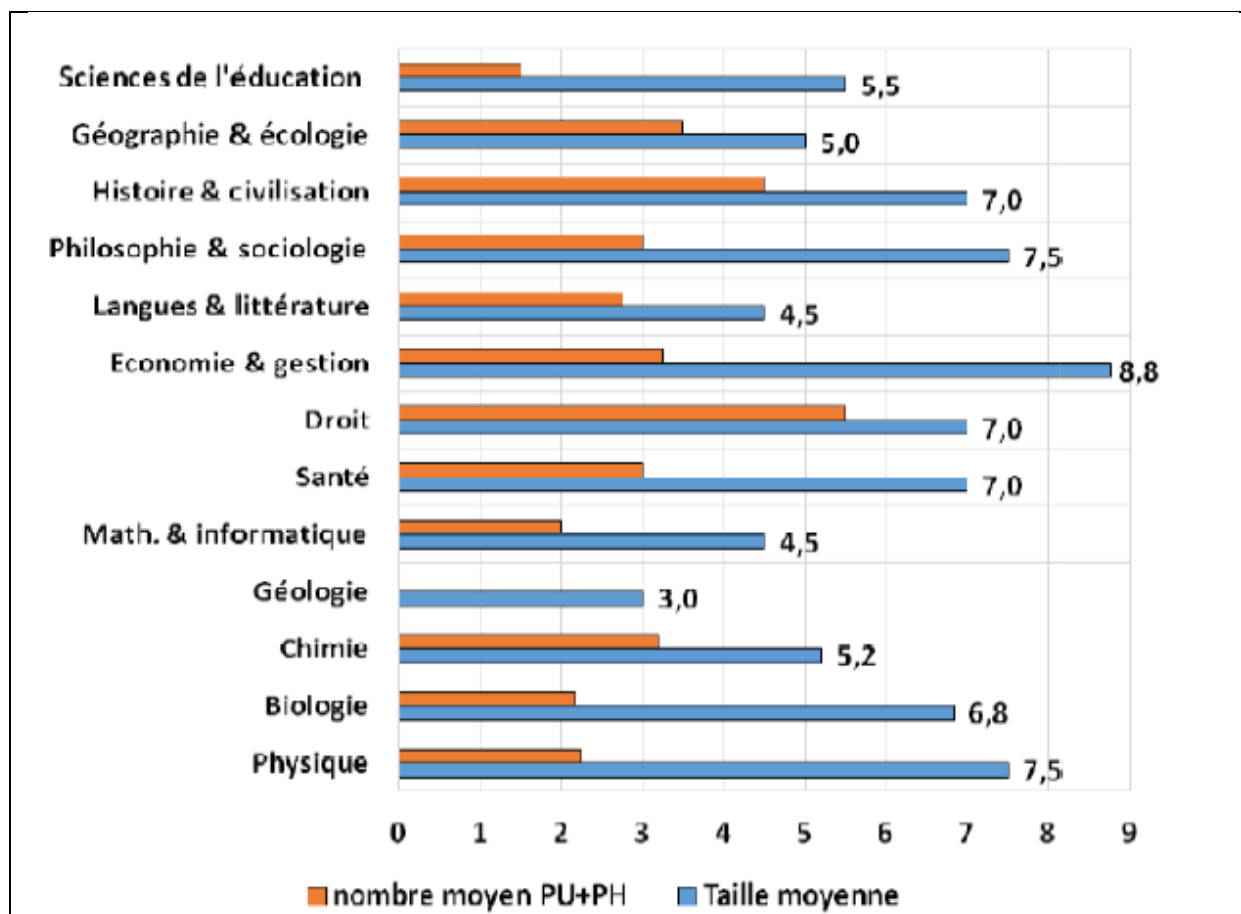


FIGURE 25: SIZE PER DISCIPLINE

Source: 2010-2015 Situation of scientific research in higher education institutions /DRSI/MHESR 2016.

X.3 Scientific output

X.3a Scientific output by publication type

The overall scientific output by type of production during the period between 2010 and 2015 is as follows:

➤ *Distribution of publications by type of output*

Type of output	Number of outputs
Posters	105
Communication	230
Book chapter	52
Book	91
National journal	167
International Non reference Journal	107
International Reference Journal	208
Total	960

TABLE 70: DISTRIBUTION OF PUBLICATIONS BY TYPE OF OUTPUT

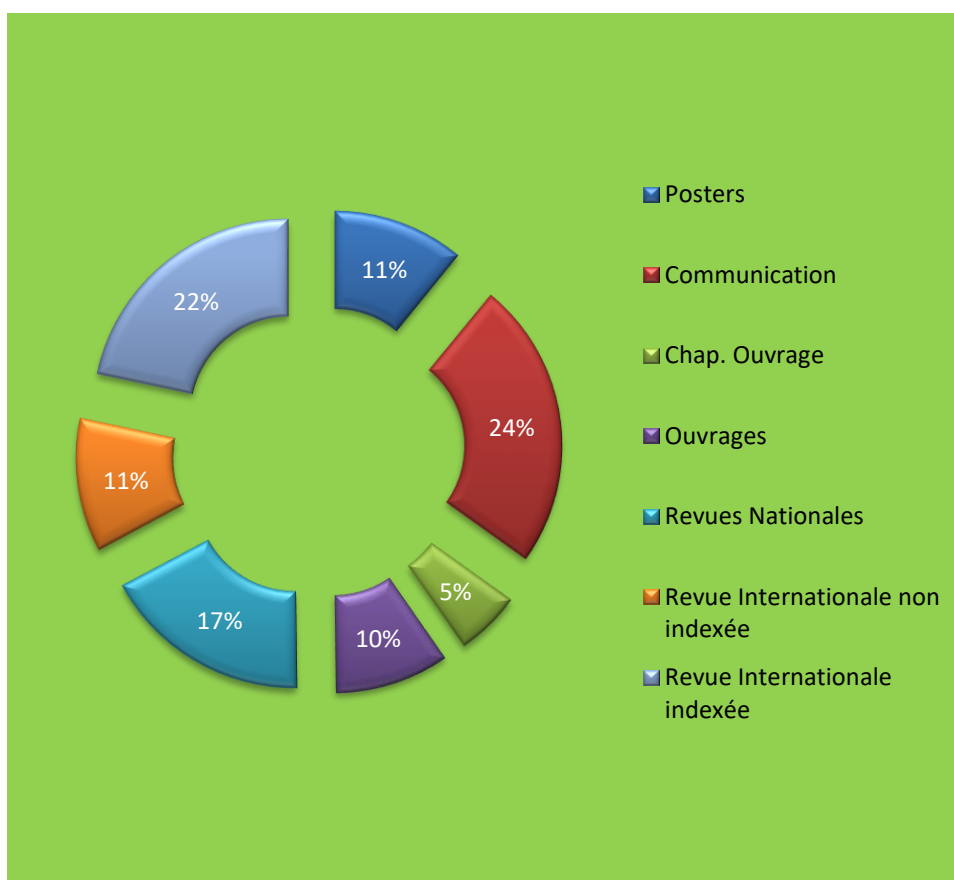


FIGURE 26: DISTRIBUTION OF PUBLICATIONS BY TYPE OF OUTPUT

X.4 Research (continued)

The data related to research recorded in the ESRS dashboard, Mauritania 2015-2016 pages 65-66-67

X.4.a Distribution of registered and associate researchers by diplomas

Institution	Department	Unit	DIPLOMA					Registered in a Masters' Programme	Other members
			Doctoral Thesis	AFD	PHD	Doctorat 3 ^{ème} cycle	Autre		
FST	Biology	Unit : Food Nutrition Health (ANS)	0	0	1	4	0		
		Epidemiology and diversity of microorganisms	0	0	3	0	0		
		EBIOME	0	1	0	1	1		
		Genomes and environments	0	1	1	1	0		
		Study of the main markers of the Mauritanian population	0	1	1	0	1		
		Biodiversity and Promotion of Plant Resources	0	0	1	3	0		
	Chemistry	WATER-POLLUTION-ENVIRONMENT	0	0	4	0	1		
		Analysis and Water treatment Techniques	0	1	2	1	0		
		Chemistry of Materials	0	1	4	1	0		
	Geology	Ecosystem Dynamics and Environmental Governance	0	0	5	0	0		
		Climate Change	0	0	3	1	0		
		Geodynamics and Mineral Resources	1	0	3	0	0		
	DMI	Digital Documents and Interfaces	0	0	5	0	0		
		EDP analysis and modelisation	1	1	3	1	1	3	5
		URAGAD	1	1	2	2	0	3	6
		Mathematical Decision Sciences and Computer Science	0	1	1	1	2		
		Geometry, Topology, and Applications	0	0	2	1	0		
	Physics	Materials Sciences and Environment	1	0	3	2	0		
		Industrial systems – Information technologies	0	0	4	0	0		
		Energy New Technologies and et thermo-fluid Systems	0	2	2	2	0		
		Renewable Energies Applied Research Laboratory	1	1	4	2	0		

Suite

FLSH	History	El Maarif for historical and sociological studies and cultural heritage dissemination	0	0	2	2	1		
		Ribat for archeological and historical studies	0	0	0	2	2		
		Real estates governance	0	0	0	0			
	Arabic Language	Al Manara for studies, research, and investigations	1	0	3	3	1		
		Al Khalil Ibn Ahmed for Language Teaching	0	0	0	0			
	Philosophy	Philosophy and the Project of Society Building	1	0	2	3			
	National Languages and Linguistics	Linguistics and Didactics Research Group	0	0	2	2	4		
	French Studies	African Literature Research Group	0	1	4	1	2		
	Geography	Climate and Environmental Changes	0	0	0	0			
		Multidisciplinary University Research Group	0	0	0	0			
Spatial dynamics and land Development		0	0	0	0				
FSJE	Private Law	Law Dynamics	1	4	4		2		
	Economics	Mauritanian Economy Research Unit (UREM)			7	2	1		
	ND			3	3		10		
ISET	GEM	Electromechanics Research Unit			1	1	1	1	13
TOTAL			8	19	82	39	30	7	24

TABLE 71: DISTRIBUTION OF REGISTERED AND ASSOCIATE RESEARCHERS BY DIPLOMA

X.4.b Distribution of researchers by grade

Institution	Department	Unit	Researchers per grade				
			AS4	AS3	AS2	AS1	
FST	Biology	Unit : Food Nutrition Health (ANS)	0	1	4	0	
		Epidemiology and diversity of microorganisms	0	0	3	0	
		EBIOME	1	1	1	0	
		Genomes and environments	0	1	2	0	
		Study of the main markers of the Mauritanian population	1	1	0	1	
		Biodiversity and Promotion of Plant Resources	0	2	2	0	
	Chemistry	WATER-POLLUTION-ENVIRONMENT	0	4	1	0	
		Analysis and Water treatment Techniques	1	1	2	0	
		Chemistry of Materials	0	3	3	0	
	Geology	Ecosystem Dynamics and Environmental Governance	0	3	2	0	
		Climate Change	0	2	2	0	
		Geodynamics and Mineral Resources	0	2	2	0	
	DMI	Digital Documents and Interfaces	0	0	5	0	
		EDP analysis and modelisation	1	1	0	4	
		URAGAD	0	3	3	0	
		Mathematical Decision Sciences and Computer Science	1	1	1	2	
		Geometry, Topology, and Applications	0	1	2	0	
	Physics	Materials Sciences and Environment	1	1	4	0	
		Industrial systems – Information technologies	0	0	4	0	
		Energy New Technologies and et thermo-fluid Systems	0	4	2	0	
		Renewable Energies Applied Research Laboratory	1	3	4	0	
	FSJE	History	EI Maarif for historical and sociological studies and cultural heritage dissemination	0	3	1	1
			Ribat for archeological and historical studies	0	2	0	2
			Real estates governance	0	0	0	0
Arabic Language		Al Manara for studies, research, and investigations	0	4	3	1	
		Al Khalil Ibn Ahmed for Language Teaching	0	0	0	0	
Philosophy		Philosophy and the Project of Society Building	0	2	4	0	
National Languages and Linguistics		Linguistics and Didactics Research Group	0	0	3	5	
French Studies		African Literature Research Group	0	1	5	2	
FLSH		Geography	Climate and Environmental Changes	0	0	0	0
	Multidisciplinary University Research Group		0	0	0	0	
	Spatial dynamics and territorial Development		0	0	0	0	
FSJE	Private Law	Law Dynamics		8	1	2	

	Economics	Mauritanian Economy Research Unit (UREM)		5	4	1
	ND			10	5	1
ISSET	GEM	Electromechanics Research Unit			1	

TABLE 72: DISTRIBUTION OF RESEARCHERS BY GUIDE

X.4.c Publications and Theses

Institution	Department	Unit	Peer-reviewed Publications		Registered in a Doctoral Programme	Registered in a Masters Programme	Number of theses defended the previous years
			Année	Nombre			
FST	DMI	Digital Documents and Interfaces					
		EDP analysis and modelisation					
		URAGAD					
		Mathematical Decision Sciences and Computer Science					
		Geometry, Topology, and Applications					
		Geometry, Topology, and Applications			1	2	2
FLSH	History	El Maarif for historical and sociological studies and cultural heritage dissemination	2011	17	1		1
	Center of Studies and Research			12			
FSJE	Private Law	Law Dynamics	2013	2	33		5
			2010	1			
			2008	1			
			2007	1			
			2005	1			
			2004	1			
	Department of Economics	Mauritanian Economy Research Unit (UREM)	2014	6			
			2013	2			
			2012	3			
			2011	1			
			2010	1			
			2009	1			
			2008	3			
			2007	1			
			2006	1			
			2004	1			
			2003	1			
	ND	ND	2014	1			
			2013	3			

			2012	1			
			2010	1			
			2007	1			
			2005	1			
ISET	GEM	Electromechanics Research Unit	2014	3			
			2013	1			
			2012	3			

TABLE 73: PUBLICATIONS AND THESES

XI. Quality (Supervision)

The level of student supervision is far from the International Standards in Africa ...

Overall high rates of pedagogical supervision, though the situation varies by country, institution, and areas of trainings.

Higher education has experienced a strong expansion in the last few years. However, engagement of teachers has not kept pace when compared with the needs to ensure satisfying conditions of supervision for the millions of new students who have accessed higher education in the last 10 or 15 years. The immediate consequence is a deterioration of the supervision rates (student-teacher ratios), which is, in Africa, higher than any other place in the world.

XI.1. Student-teacher ratios in higher education by main groups of countries and its evolution since 1991

Region*	1991		2006 or around		Ratio 2006/1991
	Ratio	Nb of countries	Ratio	Nb of countries	
OCDE	14,	27	1	25	1,0
Africa	14,	31	2	31	1,3
Including low-income countries	15,	22	2	21	1,3
Other countries	14,	9	1	10	1,3
Non-Africa and Non-OCDE	13,	58	1	72	1,1
Including low-income countries	17,	10	1	14	1,1
Other countries	13,	48	1	58	1,1
World	14,	116	1	128	1,2

TABLE 74: STUDENT-TEACHER RATIOS IN HIGHER EDUCATION BY MAIN GROUPS OF COUNTRIES AND ITS EVOLUTION SINCE 1991

Source: Higher education dashboard – Mauritania 2015-2016

The student-teacher ratio has in fact increased by around 40% in Africa since 1991 in comparison to an increase of 20% in average at the world level. To date, this ratio is at least 40% higher in Africa than in OCDE countries (20.4 students by teacher in Africa versus 15.6 in the OCDE countries), which is a sign of the remoteness of Africa from international standards of student supervision in higher education.

Individually, African countries differ slightly in terms of the level of supervision provided for students. Supervision rates vary, thus, from an average 10 to 35 students by teacher per country. Hence, the situation is alarming in some countries like Burkina Faso, Cameroon, Ghana, Guinea, Mali, Mauritania, Nigeria, Algeria, and Egypt where the supervision rates are close to or above 30; it is less so in other countries such as Mozambique, Chad, Niger, Eritrea, or Cape Verde.

(year 2006 or around, both public and private sectors)

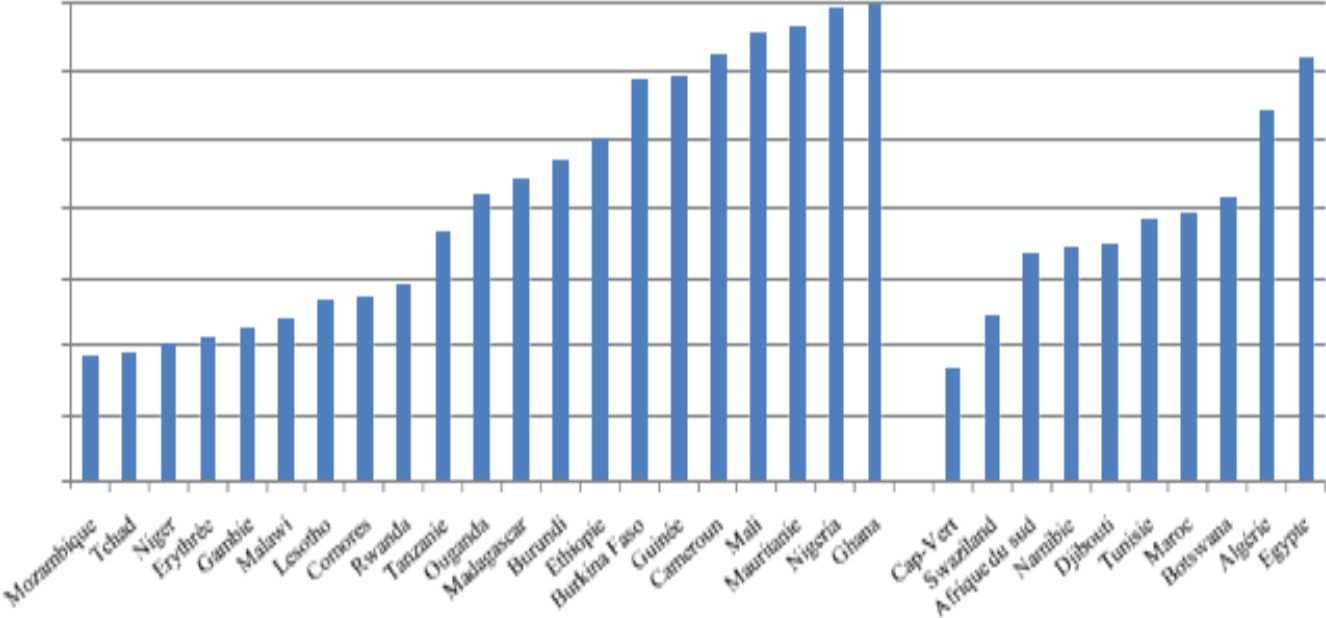


FIGURE 27: HIGHER EDUCATION STUDENT-TEACHER RATIOS IN AFRICA

Note: A distinction is made in this figure between low-income countries (left side) and intermediate-income countries (right side).

Source: Higher education reforms in Africa : Elements of the general framework. Dakar Pole (UNESCO-BRED).

The observations made earlier are based on the « average » situation of all higher education institutions, public and private. This situation must be differentiated according to the type of institution or the offered training courses. There is not enough information to illustrate that distinction. However, the available data from over ten countries suggest the existence of a strong differentiation of the conditions of supervision by type of institution. For the relevant countries, the supervision rates appear less favorable in the public sector (as a whole) as opposed to all the private sector. This is particularly the case of Algeria, Burkina Faso, Cameroon, or Guinea as the following figure shows:

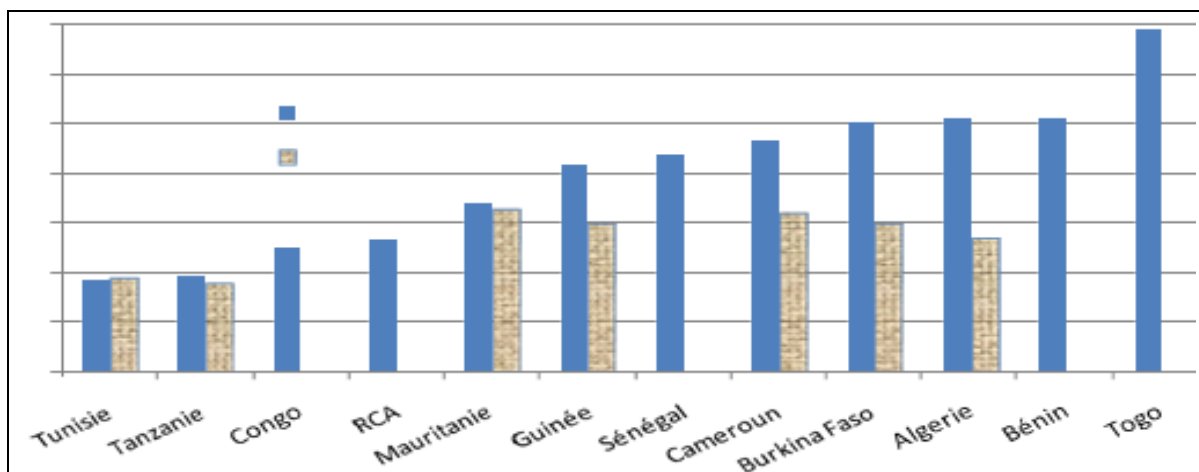


FIGURE 28: STUDENT-TEACHER RATIOS IN THE PUBLIC SECTOR IN COMPARISON TO THE PRIVATE SECTOR WHERE POSSIBLE, A SAMPLE OF AFRICAN COUNTRIES, YEAR 2006 OR AROUND

It should be noted in addition that the “qualitative shortage” of teachers varies by higher education institution, establishments/faculties, and training courses. In Tanzania, for example, the proportion of higher-ranking teaching staff varies from 5 to 36% by institution (18% being the average value for the whole public sector).

The data are not sufficient to provide an overview of the quantitative and qualitative problems faced by higher education institutions in the continent in terms of student supervision. The available data suggest, nonetheless, that some countries are more affected by the lack of high-ranking teaching staff (the case of Tunisia) whereas in other countries this deficit is mainly quantitative (the case of Burkina Faso or the CAR). However, it seems that in many cases the needs for teachers are both qualitative and quantitative (the case of Algeria, Cameroon, Congo, or Guinea). The low number of high-ranking teaching staff is particularly worrying in countries where the majority of teachers do not hold a doctorate degree. The most recent data available for five countries (Burkina Faso, Ethiopia, Guinea, Rwanda, and Tanzania) suggest that no more than an average of 40% of the teaching staff hold a Doctorate degree; the highest percentage among the five countries is found in Burkina Faso (69%) while the lowest is found in Ethiopia (9%).

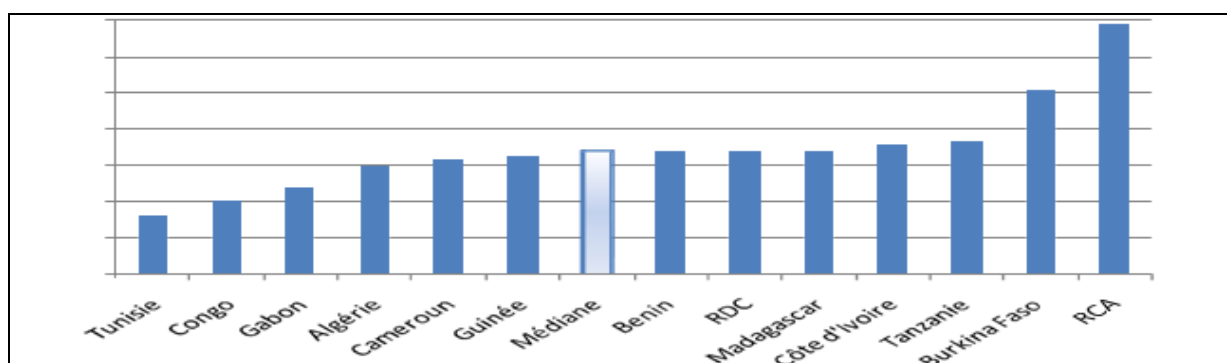


FIGURE 29: PROPORTION OF HIGH-RANKING TEACHING STAFF IN PUBLIC HIGHER EDUCATION FOR 13 AFRICAN COUNTRIES (YEAR 2005 OR AROUND)

XI.2 STUDENT-TEACHER RATIO BY INSTITUTION

Institutions	Students	Teachers	Student-teacher ratio
UNA	12968	495	26
USIA	764	35	22
ENS	601	69	9
ESP	496	38	13
ISCAE	1104	35	32
ISERI	2174	59	37
ISET	320	24	13
ISPLTI	169	3	56
AN	59	6	10
TOTAL	18937	764	25

TABLE 75: STUDENT/TEACHER RATIO

XI.3 Comparison of student-teacher ratios in Mauritania and some African countries ⁽¹⁾

Country	Student-teacher
Mauritania (2018)	25
Mauritania (2016)	28
Mauritania (2015)	27,9
Mauritania (2009)	33,8
Cameroon (2006)	31,2
Chad (2006)	9,5
Mali (2006)	32,9
Guinea (2006)	29
Burkina Faso (2006)	29
Niger (2006)	10,4

TABLE 76: COMPARISON OF STUDENT-TEACHER RATIOS IN MAURITANIA AND SOME AFRICAN COUNTRIES

(¹) Source: National Dialogue On The Future Of Higher Education In Senegal

XI.4 Distribution of students in higher education by field of education in some African countries

Pays	Science and technology	Social sciences, Commerce, and Law	Letters and Human sciences	Others
Mauritania	29,	37,9	29,5	3,6
Algeria	20,3	38,9	17,5	23,3
Morocco	22,4	53	17,6	7
Cameroon	25,2	64,5	7,7	2,6
Burkina Faso	25,6	53,2	11,5	9,7
Congo	14,2	27,3	33,9	24,6
Guinea	34,2	41,5	11,1	13,2

TABLE 77: DISTRIBUTION OF HIGHER EDUCATION STUDENTS BY FIELD OF EDUCATION IN SOME FRANCOPHONE AFRICAN COUNTRIES

References and links

[1]. Statistical Yearbook of Mauritanian Higher Education 2014/2015	[1]. الدليل الإحصائي للتعليم العالي الموريتاني 2015/2014
[2]. Statistical Yearbook of Mauritanian Higher Education 2015/2016	[2]. الدليل الإحصائي للتعليم العالي الموريتاني 2016/2015
[3]. National Dialogue On The Future Of Higher Education In Senegal	[3]. التشاور الوطني حول مستقبل التعليم العالي في السنغال
[4]. Major Education Indicators, Mr. Thierry L'airez, ISU Regional Counselor (presentation in the national validation workshop of historical data – use of OLAP cubes and longitudinal analyses, organized by MEFS/DSSP and ISU, UNESCO Institute for Statistics, 17/3/2007)	[4]. Principaux indicateurs de l'Education, M. Thierry L'airez, Conseiller Régional ISU (exposé dans l'atelier national de validation des données historiques utilisation des cubes OLAP et analyses longitudinales, organisé par MEFS/DSSP Et ISU, (Institut de Statistique de l'UNESCO, 17/3/2007)
[5]. Higher education reforms in Africa : Elements of the general framework. Dakar Pole (UNESCO-BRED)	[5]. إصلاحات التعليم العالي في إفريقيا: نقاط تأطير قطب دكار (UNESCO-BRED)
[6]. RGPB 2013. ONS, Mauritania	[6]. التعداد العام للسكان والمساكن 2013. المكتب الوطني للإحصاء, موريتانيا
[7]. Mauritanian Higher Education Dashboard 2015/2016	[7]. لوحة قيادة التعليم العالي الموريتاني 2016/2015
[8]. www.unesdoc.unesco.org/images/0018/001824/182453f.pdf , constructing a higher education dashboard, a practical guide ;	[8]. www.unesdoc.unesco.org/images/0018/001824/182453f.pdf , Construire un tableau de bord pour l'enseignement supérieur, un guide pratique ;
[9]. www.uis.unesco.org/Education/Documents/iscd-2011-fr.pdf International Standard Classification of Education, CITE2011	[9]. www.uis.unesco.org/Education/Documents/iscd-2011-fr.pdf Classification Internationale Type de L'Education , CITE2011
[10]. www.unicef.org/education/files/vol1fr.pdf Methodological guide for the Sectoral Analysis of Education (volume1)	[10]. www.unicef.org/education/files/vol1fr.pdf Guide méthodologique Pour l'analyse sectorielle de l'Education (volume1)
[11]. www.unicef.org/education/files/vol2fr(3).pdf Methodological guide for the Sectoral Analysis of Education (volume2)	[11]. www.unicef.org/education/files/vol2fr(3).pdf Guide méthodologique Pour l'analyse sectorielle de l'Education (volume2)
[12]. www.uis.unesco.org/Library/Documents/eiguide09-fr.pdf Education Indicators, technical guidelines	[12]. www.uis.unesco.org/Library/Documents/eiguide09-fr.pdf مؤشرات التربية، توجيهات فنية/تقنية
[13]. Situation of scientific research in higher education institutions 2010-2015/DRSI/MESRS2016	[13]. حالة البحث العلمي في مؤسسات التعليم العالي 2010-2015 مديرية البحث العلمي والابتكار/وزارة التعليم العالي والبحث العلمي 2016
[14]. RESEN Sao-Tome-et-Principe 2014	[14]. RESEN Sao-Tome-et-Principe 2014
[15]. National Strategy of Accelerated Growth and Shared Prosperity 2016-2030 (Draft)	[15]. إستراتيجية النمو المتسارع والرفاه المشترك 2030-2016 (النسخة المؤقتة)
[16]. AFD Group, sectoral intervention framework	[16]. مجموعة وكالة التعاون الفرنسي إطار التدخل القطاعي
[17]. Country sheets-November 2016/CAMPUS France	[17]. Fiches pays-novembre 2016/CAMPUS France