

## Understanding the Key Determinants of Early Childhood Education in Chad

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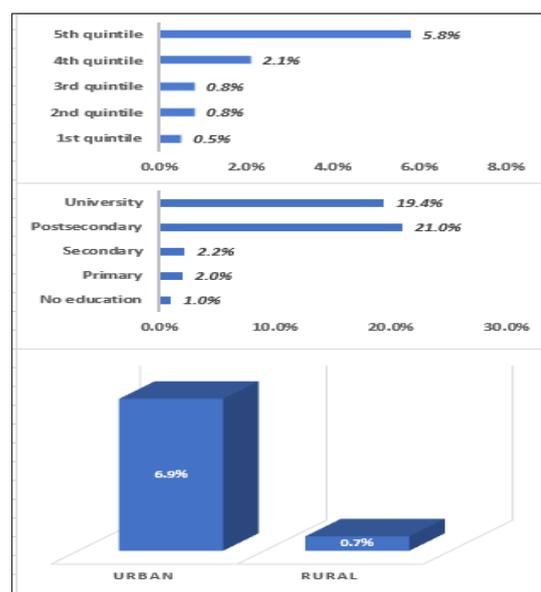
### Summary

Chad had the lowest Human Capital Index (HCI) in the world in 2018 (0.29)<sup>2</sup>, and little progress has been achieved since then (0.30 in 2020). This weak performance is largely driven by poor quality of education: the total expected years of schooling was estimated at 5 years but represented only 2.6 years of learning when adjusted for quality. Learning poverty<sup>3</sup> was estimated at 98 percent. The primary school completion rate was only reached 45 percent in 2020.<sup>4</sup> These poor learning outcomes could be attributed to the low level of development of Early Childhood Education (ECE). In rural areas, children have limited access to ECE because only 20 percent of available services are in rural areas and because they belong to the poorest households. Out-of-school children live largely in households whose head has no education (70 percent). When parents do send their children to ECE services, there is a strong tendency to start late, at 5 years instead of at age 3.

### Context

The Chad Interim Education Plan (PIET 2018-2020) is the prevailing sectoral plan in the education sector. The targeted Gross Enrollment Rate (GER) in pre-primary was set to 4.2 percent, the baseline value being that of 2016 which was 2.8 percent. However, this ratio was reduced to 1.9 percent in 2018 (ECOSIT4).<sup>5</sup> In addition to being very low, the GER is inequitably distributed across regions, the place of residence, the household head education level and wealth index, as shown in Graph 1. The highest rate was achieved in N'Djamena, the capital city (13.4 percent), whereas Hadjer-Lamis and Wadi-Fira regions lagged behind with a GER of 0.2 percent.

Graph 1: Distribution of the GER by wealth index, HH education level and place of residence



Source: Author's calculations based on ECOSIT4 data

<sup>1</sup> This Policy Brief was prepared by the author as part of a capstone project for the Early Years Fellowship. The opinions are the author's own and do not reflect the views of the World Bank Group. We thank Waly Wane (Practice Leader, HAWDR), Harisoa Danielle Rasolonjatovo Andriamihamina (Senior Education Specialist, HAWE3), Zacharie Ngueng (Education Specialist, HAWE2) and Haleinta Bara Traore (Education Specialist/Early Learning, UNICEF) for their respective inputs. The Early Learning Partnership (ELP) is a multi-donor trust fund, housed at the World Bank, which works with countries to build programs, policies and research to improve outcomes for young children around the world. ELP launched the Early Years Fellowship in 2016 to build capacity within countries and develop the next generation of leadership to scale-up investments in Early Childhood Development (ECD).

<sup>2</sup> 2018 World Bank Human Capital Project Report. A child born in Chad today will be 29 percent as productive when she grows up as she could be if she enjoyed full health and complete education.

<sup>3</sup> Learning poverty means being unable to read and understand a simple text by age 10 (World Bank, 2019).

<sup>4</sup> Education Statistics Yearbook, 2019-2020

<sup>5</sup> Fourth Households Living Standards and Measurement Survey, ECOSIT4, 2019

The GER reached 5.8 percent among children belonging to the richest households (5<sup>th</sup> quintile) compared to only 0.5 percent for those living in the poorest ones (1<sup>st</sup> quintile), a difference of 5.3 percentage points. Differences are even larger between children living in households whose heads have higher education levels and those whose household heads have no education or achieve lower education level. In urban areas, the GER was nearly ten times larger than that in rural areas.

The embryonic state of ECE in Chad is correlated with the weak institutional environment and the lack of investment in this sub-sector. Indeed, pre-primary education does not only evolve out of the formal education system but is also under the management of the Ministry of Women, and Early Childhood Protection (MFPPE), not the Ministry of National Education and Civics Promotion (MENPC) to which the pedagogic supervision of preschools is attributed. This situation led to an institutional confusion with the two ministries that is hindering the collaboration between them, especially on key issues including the alignment of pre-primary and primary curricula, and data coverage within the Educational Management Information System (EMIS).

Also, the budget share of pre-primary education in the total government budget devoted to education and training was the lowest in 2013 (0.5 percent).<sup>6</sup> Further to the successive shocks (the 2014 plunge in oil prices, and the recent COVID-19 pandemic), the funding of this sub-sector would certainly have deteriorated giving that in such situations the Government used to cut social spending, including education spending. Therefore, the public sector is underrepresented as less than 10 percent of preschools are public.

The private sector is the dominant provider of ECE services. Almost 7 in 10 preschools were private (69.3 percent) in 2019, and community preschools represented 25.2 percent of the total. The predominance of the private sector

causes high schooling fees (even higher than that in primary education) inaccessible to poor households. Moreover, these prices do not necessarily reflect the quality of services provided. There is neither a clear standard in force in the pre-primary sector nor an effective supervision of preschools by the governing Ministry.

The above-described conditions under which ECE services are supplied also determined the demand for these services. For example, poor families would face financial constraints imposed by private providers and be in a position of not sending their kids to preschools or preferring to send them in primary schools.

This brief focusses on the demand and supply factors of access to and quality of ECE in Chad using ECOSIT4 and Multiple Indicators Clusters Survey (MICS6, 2019).

## Determinants of access to ECE in Chad

The following variables are known to have an impact on school attendance of a child regardless of the education level: child's age (Grootaert, 1999) and gender (Canagarajah et Coulombe, 1999; Grootaert, 1998); households characteristics such as the head of household's gender (Durand, 2006) and education level (Pilon, 1996), and the household wealth (Mingat, 2003); as well as the community characteristics (place of residence, type of infrastructure, etc.).

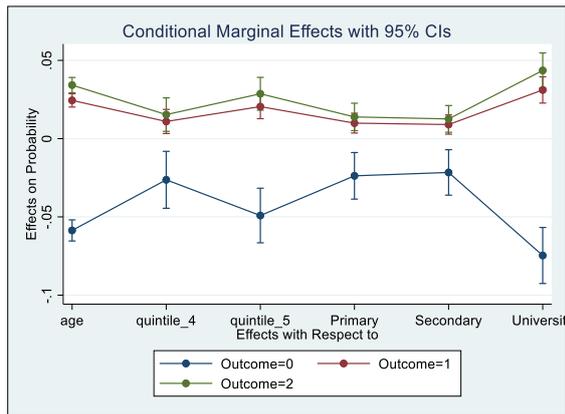
In this study, only children of pre-primary age, that is 3-5 years, are considered. It is worth noting that despite their young age, most of them (75 percent) were attending primary school (ECOSIT4). Thus, instead of using a probit model, we use the ordered probit to capture this reality. The three modalities of the independent variable (*scol*) included in the model are: 0 (being out of school), 1 (being enrolled in pre-primary, and 2 (being enrolled

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<sup>6</sup> Rapport d'état sur le système éducatif national (RESEN), 2016

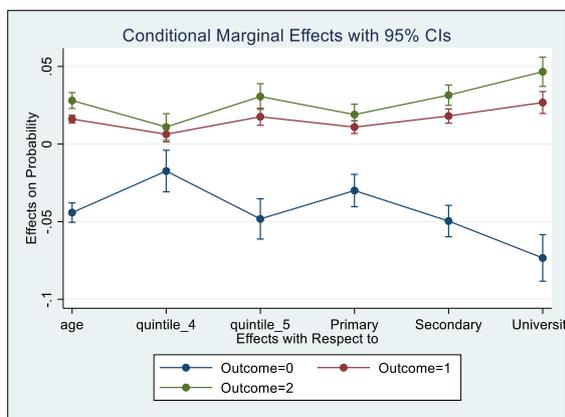
in primary). The main database used for the estimation of the probability to attend preschool is ECOSIT4 and consists of 5,530 individuals. The robustness analysis of the results has been conducted using MICS6. The below graphs (Graph 2 & Graph 3) present the margins of the estimates:

Graph 2: Margins of the significant factors (ECOSIT4)



Source: Author's calculations based on ECOSIT4 data

Graph 3: Margins of the significant estimates (MICS6)



Source: Author's calculations based on MICS6 data

Overall, the results are robust since the two graphs depict similar features. First, parents tend to send their pre-primary age children to primary schools instead of preschools. Second, the positive impacts of the significant estimates on the attendance in both pre-primary and primary schools do not exceed 5 percent; they represent the chances for a child to be enrolled in preschool with respect to child's age and as compared to reference modalities ("1st quintile" for wealth and "no education" for household head education level).

Table 1 gives the magnitudes of margins of the covariates for the specific value of the dependent variable  $scol=1$  (being enrolled in pre-primary). All the covariates have the expected sign after excluding *place of residence* from the equation (see Table 3 in Appendix). Its exclusion from the final equation is due to the fact that *place of residence* provides information that is already capture in the variable *wealth index*: households living in urban areas are mostly non-poor ones (from the 4<sup>th</sup> and 5<sup>th</sup> quintile) whereas those living in rural areas are poor households (from 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> quintile).

The head of household's education level is the most impactful variable: a child living in a household whose head education level is *university* has 4.5 percent more chance to attend preschool as compared to the one who belongs to household whose head has no education. The positive impacts of higher education levels of household heads are related to the fact that the perception of the importance of education in general, and that of preschool in particular, become apparent as they move to higher level of education and are, thus, more willing to listen to and understand awareness messages. The proof is that 70 percent of pre-primary age out of school children live in household whose head has no education.

Table 1: Determinants of pre-schooling in Chad

Independent variables	Dependent variable <i>scol=1</i>	
	ECOSIT4	MICS6
Child's age	0.024 *** (0.04)	0.016 *** (0.05)
Child's gender=Male	0.002 (0.06)	0.000 (0.05)
hhgender=Male	-0.002 (0.07)	-0.005 * (0.08)
2nd quintile	0.000 (0.12)	0.001 (0.10)
3rd quintile	0.005 (0.11)	0.003 (0.10)
4th quintile	0.012 ** (0.10)	0.007 * (0.10)
5th quintile	0.024 *** (0.10)	0.024 *** (0.09)
hheduc=Primary	0.011 ** (0.08)	0.013 *** (0.07)
hheduc=Secondary	0.010 ** (0.08)	0.025 *** (0.07)
hheduc=University	0.045 *** (0.10)	0.046 *** (0.10)

Source: Author's calculations based on ECOSIT4 and MICS6 data

The household *wealth index* also causes discrimination in access to ECE. Children who belong to the richest households have 2.4 percent more chance to be enrolled in pre-primary than those who live in the poorest households. This probability is as twice as high the probability of children living in households of the 4<sup>th</sup> quintile. This explains the low level of preschool attendance in rural areas where the supply is also insufficient (only 20 percent of preschools are in rural areas),<sup>7</sup> making most of parents send their pre-primary age children to primary schools.<sup>8</sup> It is worth noting that school fees are not significantly different between pre-primary and primary in rural areas.

Another determinant of access to ECE in Chad is *child's age*. The probability of preschool attendance increases by 2.4 percent as children grow up. In other words, children arrive at preschool late. There are two possible

explanations to this: (i) richest parents would have employed caregivers to take care of their children at younger age before sending them to preschool, and (ii) the supply of "quality" ECE is very limited (limited number of places), especially in N'Djamena where parents keep trying to enroll their children each year.

### Elements of ECE quality in Chad

The proportion of surveyed children enrolled in the last grade (grade 6) of primary school who have attended preschool increased from 19 percent in 2014 to 24.9 percent in 2019. This reveals a positive influence of preschool on the academic achievement.<sup>9</sup> However, during the same period, the proportion of those enrolled in grade 2 of the primary school decreased by 6.5 percentage points (from 13.5 percent to 7 percent), which is consistent with the downward trend observed in the GER in pre-primary.<sup>10</sup>

On the school performance side, there are significant differences in reading and mathematics between children of grade 2 who have attended preschool and their peers who have not attended it. But these differences are not significant between children of grade 6, regardless of preschool attendance. This learning outcomes are certainly related to the qualification of both preschool and primary teachers. Indeed, the number of preschool teachers trained at the National Schools of Health and Social Workers (ENASS), the institution in charge of pre-primary training, is not only insufficient, but most of them are not employed by the Government. In addition, the governing Ministry, MFPPE, lacks resources to supervise preschools, especially private ones.

<sup>7</sup> Education Statistics Yearbook, 2019-2020

<sup>8</sup> 65 percent of children of age 3-5 who were attending primary schools resided in rural areas (ECOSIT4).

<sup>9</sup> Programme d'Analyse des Systèmes Educatifs de la Confemem (PASEC) 2014 et 2019.

<sup>10</sup> The GER in pre-primary was 3.2 percent in 2013 (RESEN, 2016), 2.8 percent in 2016 (PIET 2018-2020), and only 1.9 percent in 2018 (ECOSIT4)

## Discussion

Based on the above results and the findings of the two PASEC surveys of 2014 and 2019, the challenges of access to and quality of ECE in Chad can be summarized as follows:

- 1) How to improve ECE quality and provide a safe and secure learning environment?
- 2) What can be done to expand access to ECE giving the current institutional environment and budget constraints?
- 3) How to integrate ECE into the formal education system and/or to ensure a successful transition of children under 6 years of age to primary education?

The challenge related to the quality of ECE requires to conduct a survey that will serve to develop a new preschool curriculum<sup>11</sup> based on the identified shortcomings and to set out minimum standards.

The expansion of access to ECE can be achieved through the creation of preschool classes in community primary schools and the training of women in the communities and teachers of lower primary classes to teach preschool children.<sup>12</sup>

Remedial classes can also be considered to facilitate the transition for children who enter late to primary schools without having attended preschool. The effective implementation of these recommendations highly depends on the level of collaboration between MFPPE and MENPC. In addition, there is a clear need for more investments from the Government to complement private supply and help reduce preschool fees.

We find that there is an interrelationship between the education level of household heads and the enrollment of their pre-primary age children in preschools. It is thus important to create greater consistency within the whole education system and develop a common communication plan to encourage parents to send their children to school in general and to preschool in particular at the right age. It would be also beneficial to undertake an in-depth study to well understand the functioning of Quranic schools (considered as informal education) which absorb about 10 percent of pre-primary age children.

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<sup>11</sup> The current one dates from 1994 and is no longer relevant since the context has changed since then.

<sup>12</sup> A similar approach has been adopted in Pakistan in 2002 (Wendy and al., 2007).

## References

- Confemen. (2014, 2019). *Programme d'Analyse des Systèmes Educatifs de la Confemen (PASEC)*.
- Education Development Center, I. (. (2015). *Radio Instruction to Strengthen Education (RISE) and Zanzibar Teacher Upgrading by Radio (ZTUR) Post-project Evaluation*. Washington , DC.
- Education Development Center, I. (. , & World Bank. (2015). *Expanding Access to Early Childhood Development Using Interactive Audio Instruction: A toolkit and Guidelines for Program Design and Implementation*. Washington, DC.
- Grootaert, C. (1998). Child Labor in Côte d'Ivoire: Incidence and Determinants. *Policy Research Working Paper*.
- INSEED. (2019). *Fourth Households Living Standards and Measurement Survey (ECOSIT4)*.
- Klees, S. (2017). Will We Achieve Education for All and the Education Sustainable Development Goal? *Comparative Education Review*.
- Koçak, A., & Bekman, S. (2010). *Mothers Speaking: A Study on the Experience of Mothers with Mother-Child Education Program (MOCEP)*. Istanbul: Bogaziçi University Faculty of Education.
- Martinez, S., Sophie, N., & Pareira, V. (2012). *Promise of Preschool in Africa: Community-Based Preschools in Rural Mozambique*. Washington: Save the Children and the World Bank.
- MENPC. (2016). *Rapport d'Evaluation du Système Educatif National (RESEN)*.
- MENPC. (2019-2020). *Education Statistics Yearbooks*.
- Mingat, A. (2006). Disparités sociales en éducation en Afrique sub-saharienne: Genre, localisation géographique et revenu du ménage. *Colloque International "Economie de l'Education: Principaux Apports et Perspectives"*.
- Ministère de l'Education Nationale et de la Promotion Civique. (2014). *Rapport d'état sur le système éducatif national (RESEN)*.
- Pilon, M. (1995). *Les déterminants de la scolarisation des enfants de 6 à 14 ans au Togo en 1981 : apports et limites des données censitaires*. Institut of Research for Development.
- Wendy, R.-O., Jamshed, K., & Audrey, J. (2007). Early Childhood Education in Pakistan. *Evaluation Report of USAID's Supported Program*.
- World Bank. (2017). *Promising Approaches in Early Childhood Development*.
- World Bank Group. (2018). Learning to Realize Education Promise. *World Development Report*.
- World Bank Group. (2018, 2020). *Human Capital Index Report*.

## Appendix

Table 2: Descriptive statistics of the variables included in the estimation model

Independent variables	ECOSIT4			MICS6		
	Num. Obs.	Mean	Stand. Dev.	Num. Obs.	Mean	Stand. Dev.
Out of school	5,332	0.95	0.22	11,424	0.94	0.24
Preschool	5,332	0.01	0.12	11,424	0.02	0.14
Primary school	5,332	0.04	0.19	11,424	0.04	0.20
Child's age	5,369	3.97	0.83	14,257	4.00	0.82
Child's gender=male	5,369	0.52	0.50	14,257	0.50	0.50
Place of residence=rural	5,367	0.79	0.41	14,257	0.84	0.37
hhgender=male	5,367	0.87	0.34	14,257	0.83	0.37
1st quintile	5,367	0.24	0.43	14,257	0.22	0.41
2nd quintile	5,367	0.21	0.40	14,257	0.21	0.41
3rd quintile	5,367	0.20	0.40	14,257	0.20	0.40
4th quintile	5,367	0.19	0.39	14,257	0.20	0.40
5th quintile	5,367	0.16	0.37	14,257	0.17	0.49
hheduc=no education	5,367	0.67	0.47	14,257	0.60	0.40
hheduc=primary	5,367	0.16	0.37	14,257	0.20	0.38
hheduc=secondary	5,367	0.14	0.34	14,257	0.17	0.17
hheduc=university	5,367	0.03	0.17	14,257	0.03	0.12

Source: Author's calculations based on ECOSIT4 and MICS6 data

Table 3: Results of the estimation of the ordered probit model

Independent variables	Dependent variable <i>scol</i>		
	(I)	(II)	(III)
Child's age	0.65 *** (0.04)	0.65 *** (0.04)	0.65 *** (0.05)
Child's gender=Male	0.05 (0.06)	0.05 (0.06)	0.02 (0.05)
Place of residence=Rural	-0.44 *** (0.06)		
hhgender=Male	-0.03 (0.08)	-0.05 (0.07)	-0.19 * (0.08)
2nd quintile	-0.06 (0.12)	0.01 (0.11)	0.05 (0.10)
3rd quintile	0.02 (0.11)	0.12 (0.11)	0.1 (0.10)
4th quintile	0.14 (0.11)	0.29 ** (0.10)	0.25 * (0.10)
5th quintile	0.31 ** (0.10)	0.54 *** (0.10)	0.70 *** (0.09)
hheduc=Primary	0.26 ** (0.08)	0.26 ** (0.08)	0.43 *** (0.07)
hheduc=Secondary	0.18 * (0.08)	0.24 ** (0.08)	0.72 *** (0.07)
hheduc=University	0.70 *** (0.10)	0.83 *** (0.10)	1.07 *** (0.10)
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cut1	4.29 *** (0.23)	4.62 *** (0.22)	4.88 *** (0.24)
cut2	4.58 *** (0.23)	4.91 *** (0.22)	5.11 *** (0.23)
<b>Number of observations</b>	<b>5330</b>	<b>5330</b>	<b>11424</b>
<b>Pseudo-R2</b>	<b>0.16</b>	<b>0.14</b>	<b>0.16</b>
<b>Wald Chi2</b>	<b>514.01</b>	<b>466.78</b>	<b>579.02</b>

Notes : The standard errors are in brackets. Estimations (I) and (II) are based on ECOSIT4 data and estimation (III) is based on MICS6 data.