

“Quality of Learning and Gender Parity in Access to Basic Education in Yemen”

~*Reflecting on global agenda*~

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1.1: Address the theme reflecting global development agenda towards 2015 & post 2015

- Quality objective can be the most priority goal of the education sector plans (ESP) for countries that have **nearly achieved** UPE
- **But how about the countries that are still far from UPE?**
e.g., A review of the recent ESPs of countries supported by the Global Partnerships for Education (GPE) “the principle, presumably, is to achieve the access goals in education before achieving the quality goals. Few plans acknowledge that improvements in the quality can be expected to have a positive influence on enrollment”
- **How to balance between access and quality goals under resource constraints for a given period, to avoid trade-off?** UNESCO (2012) *“there is no inevitable trade-off between quantity and quality of education”* → But in other words, without appropriate efforts, trade-off could happen (or have happened). Empirical question.

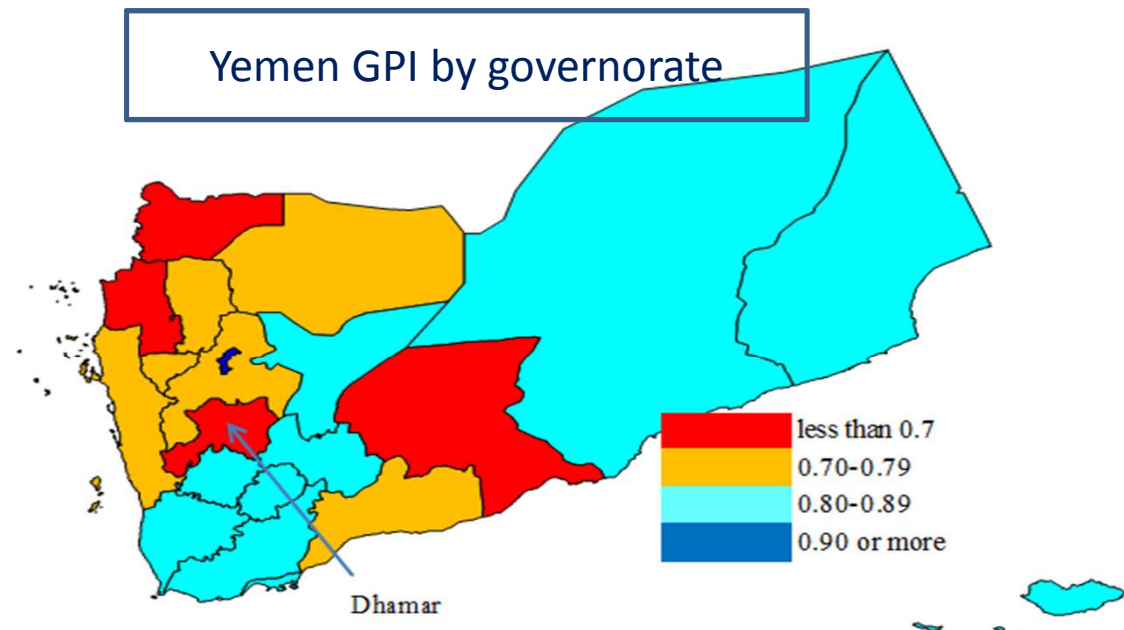
1.2: Yemen as a case country: contexts

- Access and equity have been the priority goal of ESP since 2003. Results- rapidly increased enrollments over population growth rate. But challenges remains, especially in rural areas and girls, and conflicts' backward effects:

- NER primary*:
77.6%

- Gender parity index (GPI): 0.83

(*Yemeni system does not have primary school but basic school of 9 years. Only for UNESCO data, primary is defined as the first 6 grades.)



(Source) Prepared by author using Yemen Annual Education Survey 2009/2010

- Finance and management: No evidence of increasing resources.
 - Comparable level of **public education level** (5% of GDP). But not increasing public resources to primary education, rather, a decline?
 - Not clear on **efficiency gain**. Average student-teacher ratio increased (but for quality?), Decentralization to governorate (but no evidence of efficiency or improved service delivery),
 - Not clear on increase of **private contributions**. Fees are abolished for the most of primary-level students while the practices vary. Community participatory school management committees and school grants have been piloted in some areas.
- Quality :
 - Typical measures for quality inputs have been taken, often supported by development partners e.g., in-service training, textbook revision.
 - **Yet, growing evidences of learning outcomes increase concerns.**
Overall low, and lower in rural areas.

⇒ Important to analyze the current status and policy measures for mitigating a risk of trade-off and improving quality outcomes especially for under-served rural areas.

2. Research questions

- 1) **Trade-off:** Whether a rapid increase of gender parity, often accompanied by the total enrollment growth, is related to low quality of learning outcome for students in the initially underserved areas
- 2) **Differences in policy implementation:** What policy indicators make differences in learning achievements between students, especially for underserved children

3. Data sources: two school-level questionnaire-based survey data for empirical analyses

Names	Target of analyses, and sample selection	Measure of learning outcome (test)	Questionnaires for other variables
JICA-ERDC** 2011 (March to April)	Grades 5 & 6* students, Random from <u>underserved rural schools of one Governorate</u> (DHAMAR)	TIMSS 2007 Math released items for Grade 4*	<ul style="list-style-type: none"> - Student general - Math teacher - School director (with more questions than TIMSS 2007 questionnaires)
TIMSS 2011 (April, by ERDC)	Grade 6* students, Random from <u>nationwide classes</u>	TIMSS 2011 Math items for Grade 4 *	<ul style="list-style-type: none"> - Student general - Math teacher - School director

*Note** Given the low score of Yemeni grade 4 students in TIMSS 2007, both surveys assessed upper grade's students using the grade 4 test.

***ERDC: Education Research and Development Center, Yemen.*

4. Modeling for estimation

- $$\text{SCORE}_{ij} = \alpha_0 + \beta_1 \text{INCRASE-EQUITY/ACCESS}_j + \beta_2 \text{STUFAM}_i + \beta_3 \text{TEA}_{ij} + \beta_4 \text{COM}_{ij} + \beta_5 \text{OTHER}_{ij} + e_{ij} \quad (1)$$

- $$\text{SCORE}_{ij} = \alpha_0 + \beta_2 \text{STUFAM}_i + \beta_3 \text{TEA}_{ij} + \beta_4 \text{COM}_{ij} + \beta_5 \text{OTHER}_{ij} + e_{ij} \quad (2)$$

SCORE: Student math test score

INCRASE-EQUITY/ACCESS: Change in GPI or enrollment growth as a proxy for the past changes in learning environments

TEA: Characteristics of teachers and teaching

COM: Characteristics of community and parental participation

OTHER: Supervision,

STUFAM: Gender, grade, parental education and job, households' goods.

5: Estimation results
(1) JICA-ERDC 2011 data
(2) TIMSS 2011 data

OLS estimation of math total scores, Yemen 2011 rural schools in Dahmar

Variables	(1)	(2)	(3)	(4)
GPI change in enrollment, 2004-2007	-4.523 ***	-3.852 ***	-3.624 ***	
GPI change in enrollment, 2007-2010	-9.417 ***			
Enrollment growth rate from 2007-2010 (grade1-6)		-6.162 ***		
Teachers and teaching:				
Students per teacher is above 35 (1: yes, 0: no)	-3.324 ***	-2.897 ***	-3.541 ***	-3.541 ***
Number of years in teaching	0.619 ***	0.654 ***	0.634 ***	0.634 ***
Teacher's education (1:university, 0:no)	1.112	2.213 **	1.200	1.200
Training experience (1:yes, 0: no)	1.196	1.495 **	1.485 *	1.485 *
Frequency of teaching equation for written problems	1.113 ***	1.767 ***	1.564 ***	1.564 ***
Frequency of student's arithmetic homework	0.798	0.809	0.813	0.813
Hours for lesson preparation by teacher	4.096 ***	3.528 ***	3.497 ***	3.497 ***
Parents and communities:				
Presence/absence of a workshop on quality of education attended by parents	2.998 ***	2.356 ***	2.067 ***	2.067 ***
Time of establishing fathers' council	6.725 ***	6.531 ***	6.926 ***	6.926 ***
School committee including parent representative	3.033 ***	1.410 *	2.048 ***	2.048 ***
Education fees paid by parents (number of items)	3.471 ***	3.680 ***	3.838 ***	3.838 ***
Others:				
Frequency of inspector's visit (3: more than once)	2.967 ***	2.968 ***	3.108 ***	3.108 ***
Student absence in the past 30 days	-1.364 ***	-1.354 ***	-1.329 ***	-1.329 ***
<i>Student's and family characteristics (hided for presentation due to space)</i>				
obs	(Source: JICA ERDC 2011) .59	1,159	1,159	

OLS estimation of math test scores, 6th Grade, Yemen 2011

Variables	All	Remote Rural
<i>Teachers and teaching:</i>		
Number of students in class	-0.506 ***	-0.706 ***
Number of years in teaching	1.604 ***	3.903 ***
Teacher's training participation in the last 2 years (1: yes, 0:no)	7.298 **	14.297 *
Teacher's education level (1: university degree, 0:no)	2.326	27.007 ***
<i>Others</i>		
Frequency of information provision to parents (4: more than 3 times a year)	8.784 ***	12.763 ***
Frequency of parental involvement in student's homework (4:everyday)	7.464 ***	7.400 **
Instruction affected by shortage of textbooks (4: not at all)	7.414 ***	16.250 ***
Student's gender (1:female, 0:male)	17.819 ***	12.542
Student's own book at home (1:yes, 0:no)	20.234 ***	31.380 ***
School location (1=suburban) ^{a/}	-18.245 ***	
School location (1=medium size city)	-29.222 ***	
School location (1=small town)	-25.814 ***	
School location (1=remote rural)	-56.430 ***	
obs	3,433	788
adj rs	0.129	0.144

***p<0.001, **p.<0.01, *p<0.05. a/ Default: urban.

(Source: TIMSS 2011)

6. Summary and policy implications

- 1) **Trade-off?** Negative relation between increase in access/gender parity and learning achievement: as proxy of unmeasured cumulative school and child/family characteristics.
 - ◆ Underscore the need to revisit policy measures for increasing the access for disadvantaged areas and ensure that current out-of school children will not be in school much lower than the quality standards for the others (difference will be minimized).

2) Policy indicators requiring special attentions:

(1) “Students per teacher (STR)” (esp. per civil servant teacher) : *negative*

- ◆ The ESP’s projection scenarios assumed an increase or constant of average STR at the basic edu level. Strong attentions are required to variations around the average and not to increase “actual STR” over the norm for primary schools even in disadvantaged areas.
- ◆ To reduce public financing constraints and open spaces for decentralized authorities to hire and deploy teachers based on schools’ needs, all-levels need to monitor and reduce “ghost teachers” and teacher “absence”.

(2) “Presence of participatory school councils (SC)”: *positive*

- ◆ The ESP aims to support School committees, FC, and MC. The training “manuals” and facilitation activities should promote discussions and actions for both equity access and quality goals at each school.
- ◆ To reduce financial burdens for communities, especially poor, the governments should implement its policy of school grants *(cf. Report to UN special envoy for global education, April 2013)*

(3) Guidance/monitoring of local administrators to schools/communities

- ◆ The ESP does not seem to articulate the role of local monitoring. Education management information system (EMIS) and organizational restructuring are addressed, though.

3) Through the research process we see: the needs and opportunities for the country to improve accountability and transparency to rationalize resources for addressing both equity & quality goals:

(1) Better use of existing data for planning, implementing, monitoring and revising plans: e.g.,

- ✓ Open the **school-level yearly data** (of the MOE's annual education surveys) for public. (not only aggregated statistics)
- ✓ Implement the ESP for making compatible various stand-alone central-level information systems (e.g., **national exam, teacher** database) , using the same IDs of schools, administrations, and staff.
- ✓ With donors, make project-specific monitoring data linked to the EMIS .
- ✓ **Implement the ESP to enhance the capacity of local offices to use the data**

(2) Then, further improve the data quality and availability: e.g.,

- ✓ In TIMSS or international assessments, consider to add country-specific questions to measure the status of policy implementation (e.g. school councils) in school and teacher questionnaires.
- ✓ **Conduct surveys for institutional and organizational capacity (and management procedures) of policy implementation at all levels of administrations and their shared responsibilities** (e.g. how to record teachers' working hours)

Related Web link

- “Improving the Quality of Basic Education for the Future Youth of Yemen Post Arab Spring” by Takako Yuki and Yuriko Kameyama. *Brooking Global Working Papers*. No. 55.

http://jica-ri.jica.go.jp/ja/publication/other/after_the_spring_inclusive_growth_in_the_arab_world.html

<http://www.brookings.edu/research/papers/2013/01/education-yemen-yuki-kameyama>

- “Promoting gender parity in basic education: Lessons from a technical cooperation project in Yemen” Takako Yuki, Keiko Mizuno, Keiichi Ogawa, Sakai Mihoko. *International Review of Education*. June 2013, Volume 59, Issue 1, pp 47-66 .

<http://link.springer.com/article/10.1007%2Fs11159-013-9341-9#>

THANK YOU

FOR ANY QUESTION, PLEASE CONTACT

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