

Early Childhood Education and Development in Indonesia: Emerging Results and Proposed Analyses

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Acknowledgements

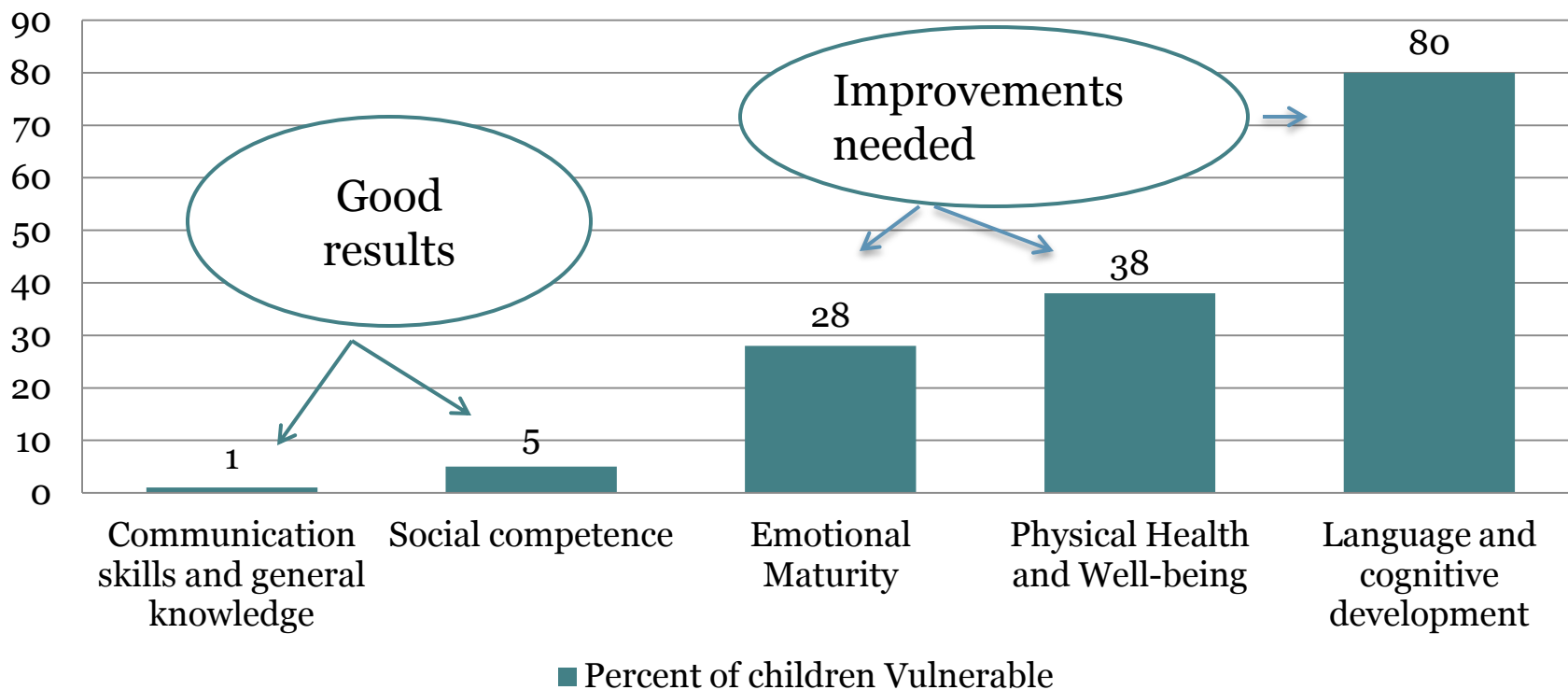
- **Generous support from the Dutch Government and AusAid**
- **Implementation support from the Government of Indonesia**
- **Collaborators on research and design from local and international academic partners**
 - International: University of Western Australia, University of Amsterdam
 - Local: Universitas Gajah Mada

Outline

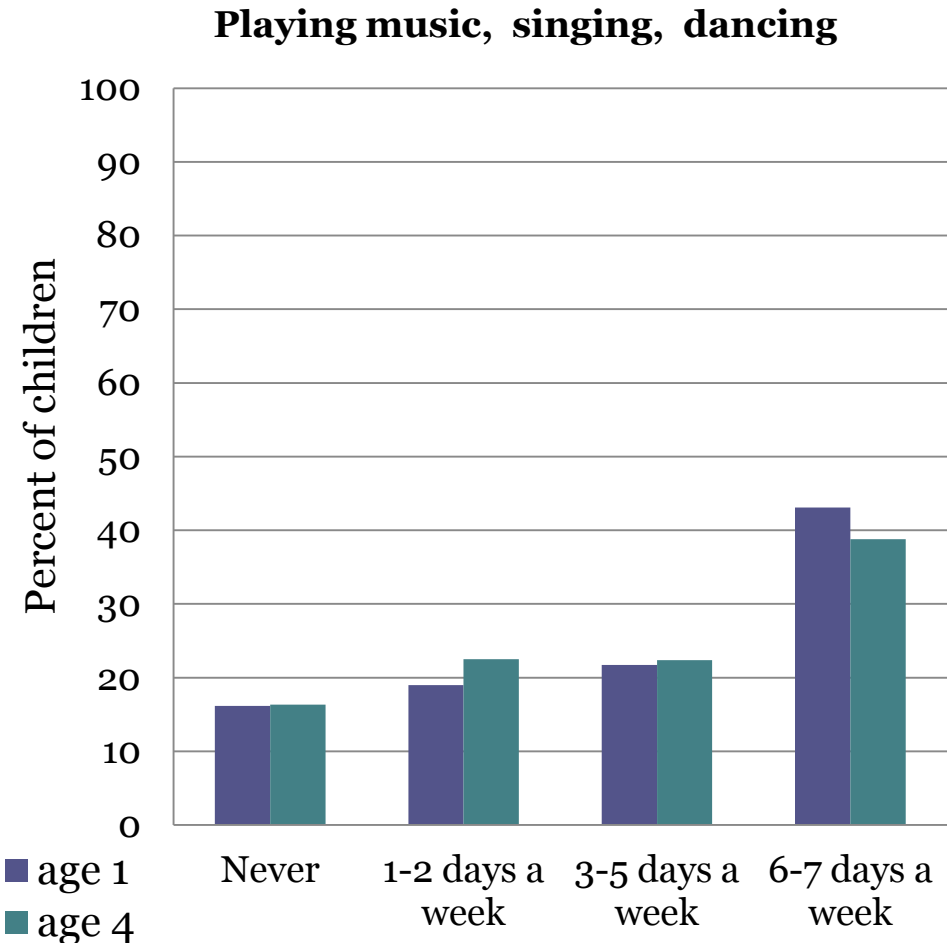
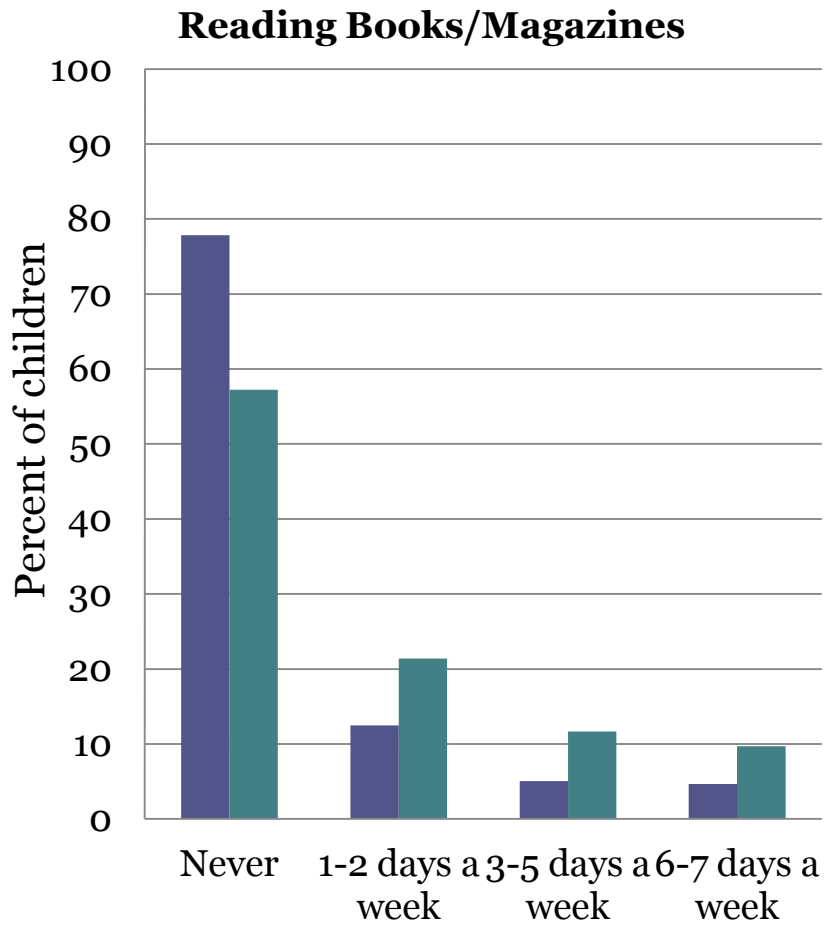
- The ECED landscape in Indonesia prior to the project
- The project
 - The beneficiaries
 - The intervention
- Analytical Framework
- The impact evaluation
 - Design
 - Data
 - Measure of child development
- Preliminary findings
- Proposed analyses

Prior to the project child developmental outcomes were mixed

**Percent vulnerable on each EDI domain -
select sample of Indonesian 4-year olds**



In part due to limited stimulation in the home



Number of times child engaged in activity in the past week with someone in the household

Against this backdrop, the project provided

- Community facilitators to sensitize villages on
 - Need for ECED
 - Management of funds
 - Proposal preparation
- Block grants to villages (USD 18,000 per village)
 - Villages propose use of funds for new ECED services or upgrading existing services
- Teacher training
 - 200 hours of training

Intended project beneficiaries included

- Main target: 738,000 children ages 0 to 6 and their parents/caregivers living in 3,000 villages within 50 selected districts throughout Indonesia.
- The project support the establishment of 6,000 ECED services (2 in each village)
- Other beneficiaries: 12,000 individuals elected to become teachers and child development workers (CDW)

ECED Project Coverage: 50 Districts in 21 provinces, 3,000 villages

Sumatera Selatan :

1. Ogan Komering Ilir

Nangroe Aceh Darussalam:

1. Aceh Tenggara
2. Aceh Tengah

Sumatera Utara :

1. Toba Samosir
2. Tapanuli tengah

Sumatera Barat:

1. Solok
2. Sawahlunto/Sijunjung
3. Pesisir Selatan

Jambi:

1. Tanjung Jabung Timur
2. Sarolangun

I

II

Bengkulu :

1. Bengkulu Utara
2. Bengkulu Selatan

Lampung :

1. Lampung Timur
2. Lampung Selatan

Jawa Barat :

1. **Sumedang** (9/26 Sub Dist)
2. **Sukabumi** (9/47 Sub Dist)
3. **Subang** (4/30 Sub Dist)
4. Majalengka
5. Garut

750 1,000
Kilometer

Jawa Tengah :

1. Rembang
2. Wonogiri
3. Cilacap
4. Banjarnegara

DI Yogyakarta:

1. Kulonprogo
2. Gunung Kidul

Kalimantan Barat:

1. Sambas
2. Ketapang

III

Jawa Timur :

1. Pacitan
2. Madiun
3. Bondowoso

NTB:

1. **Lombok Tengah** (10/12 Sub Dist)
2. **Sumbawa** (8/24 Sub Dist)
3. Dompu

NTT:

1. Sumba Barat
2. **Timor Tengah Utara** (6/24 Sub Dist)

IV

Sulawesi Utara :

1. Kepulauan Talaud
2. Kepulauan Sangihe

Sulawesi Barat :

1. Polewali Mandar
2. Mamuju

Sulawesi Selatan:

1. Sinjai
2. Sidrap
3. Wajo
4. Jeneponto

Gorontalo :

1. **Gorontalo** (6/17 Sub Dist)
2. **Boalemo** (4/7 Sub Dist)

Maluku Utara :

1. Halmahera Utara
2. Halmahera Selatan

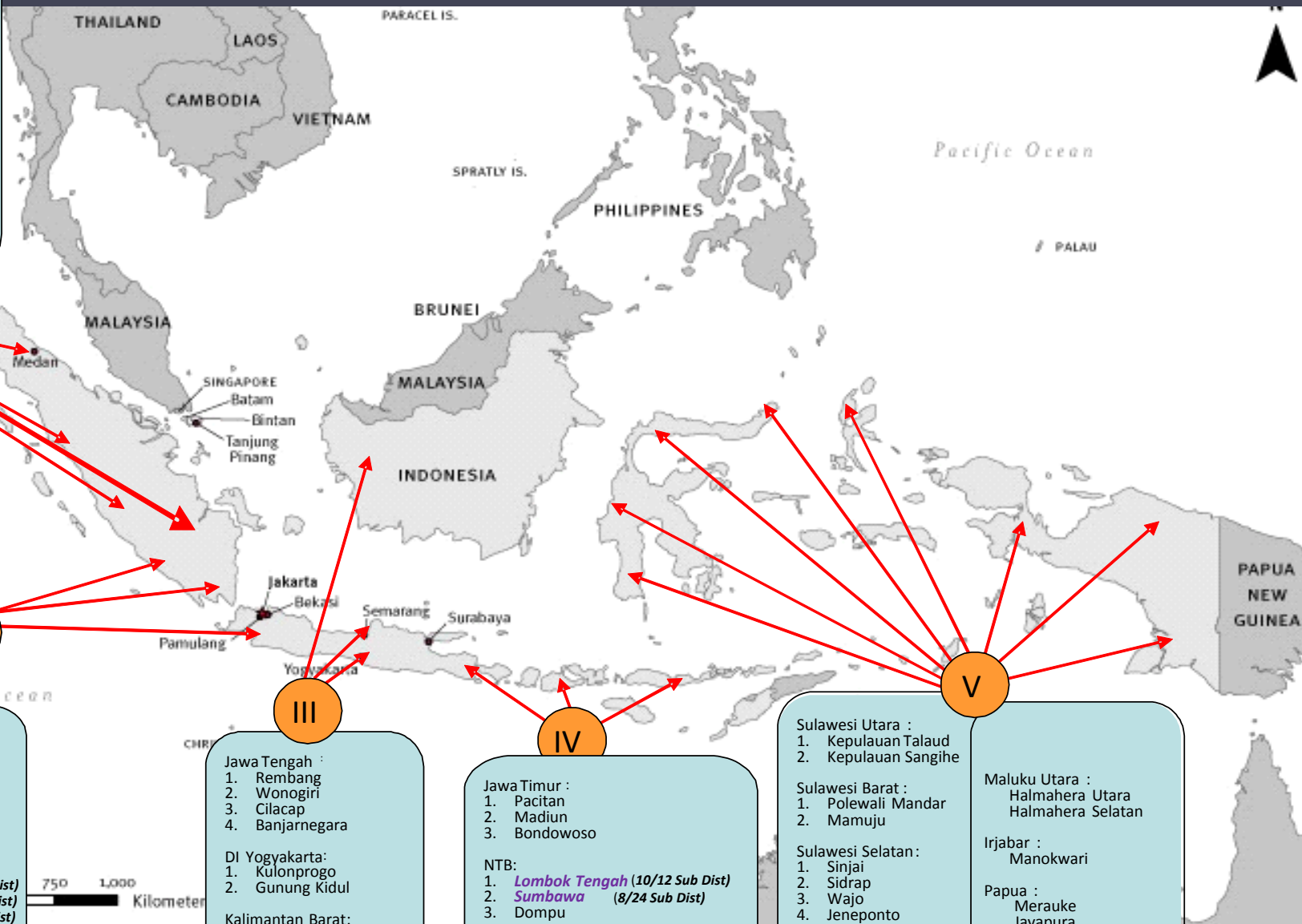
Irjabar :

1. Manokwari

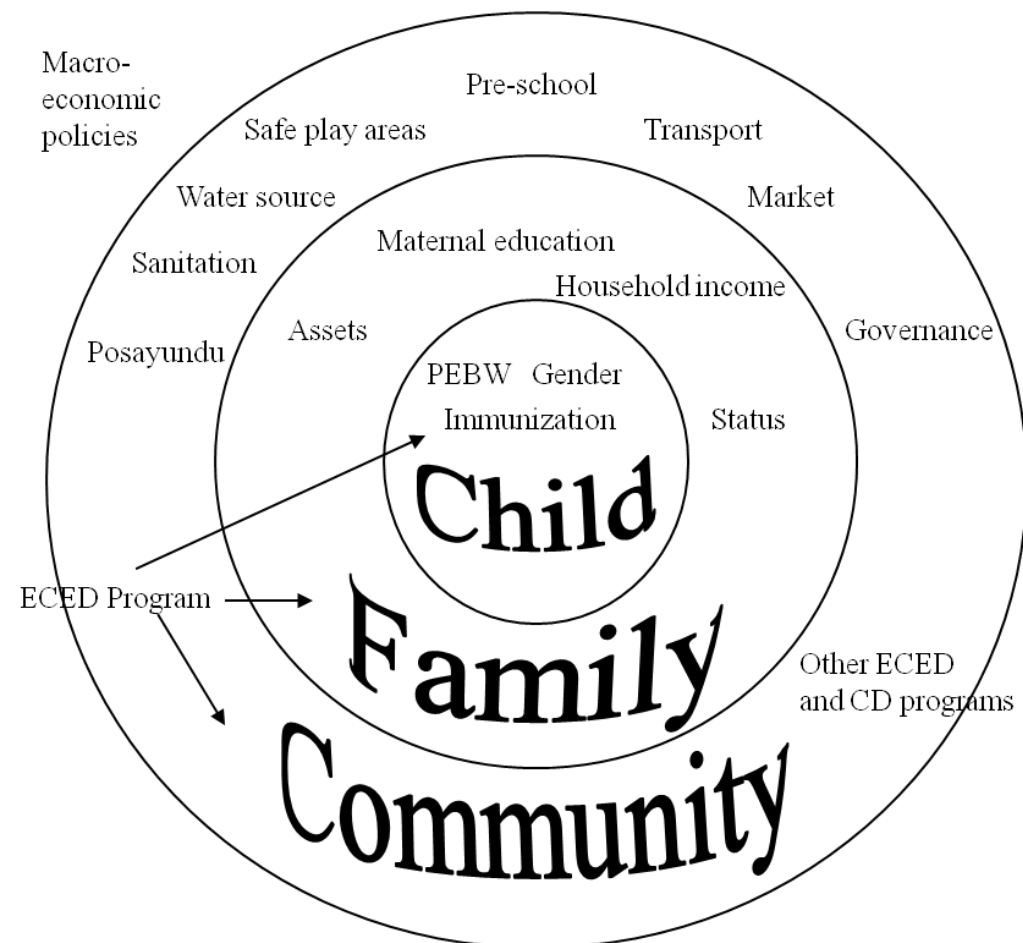
Papua :

1. Merauke
2. Jayapura

V



Analytical framework acknowledges multifaceted nature of child development



• ECED success depends on

- Child health
- Household environments
- Teacher quality
- Community facilities
 - Center quality

Impact evaluation design sensitive to the need to provide ECED broadly

Baseline

Midline

Endline

Treatment

Received program at baseline (10 villages in 10 districts)

Comparison 1

Receive program at midline
(10 villages in 10 districts)

Comparison 2


Never receive program (10 villages in 10 districts)

April 2009

July 2010

2012

Questionnaires focused on



Child tasks
Primary caregiver
ECED provider
Household head
Village head

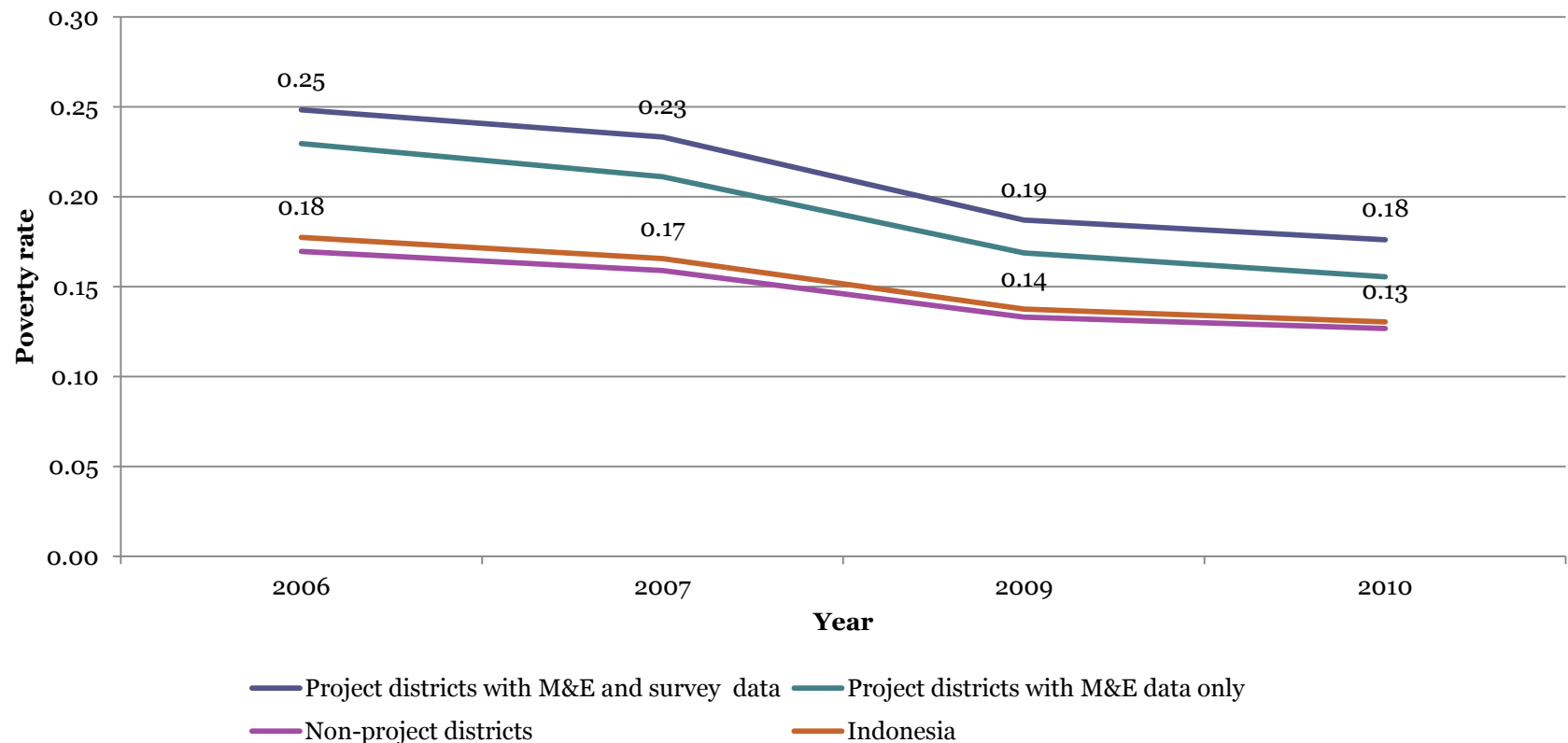
Multiple measures of child development

Target Age	Measurement	Objective
4 year olds	Early Development Instrument (EDI – short version) (Janus 2006; Janus, Brinkman and Duku, 2007)	To measure children's school readiness from five major developmental domains: <ol style="list-style-type: none">1. Physical health and well-being2. Social competence3. Emotional Maturity4. Language and cognitive development5. Communication skills and general knowledge
1 year olds	Strengths and Difficulties Questionnaire (SDQ) (Goodman 1997; Muris, Meesters, and Berg (2003)	To measure whether children have psychopathology such as emotional symptoms, conduct problems, hyperactivity/inattention, peer-relation problems, and prosocial behavior based on the caregiver's report
1 and 4 year olds	Dimensional Change Card Sorting (DCCS) Zelazo et al (2003); Zelazo (2006)	To measure children's executive function

How well did targeting and randomization work?

Project districts are poorer

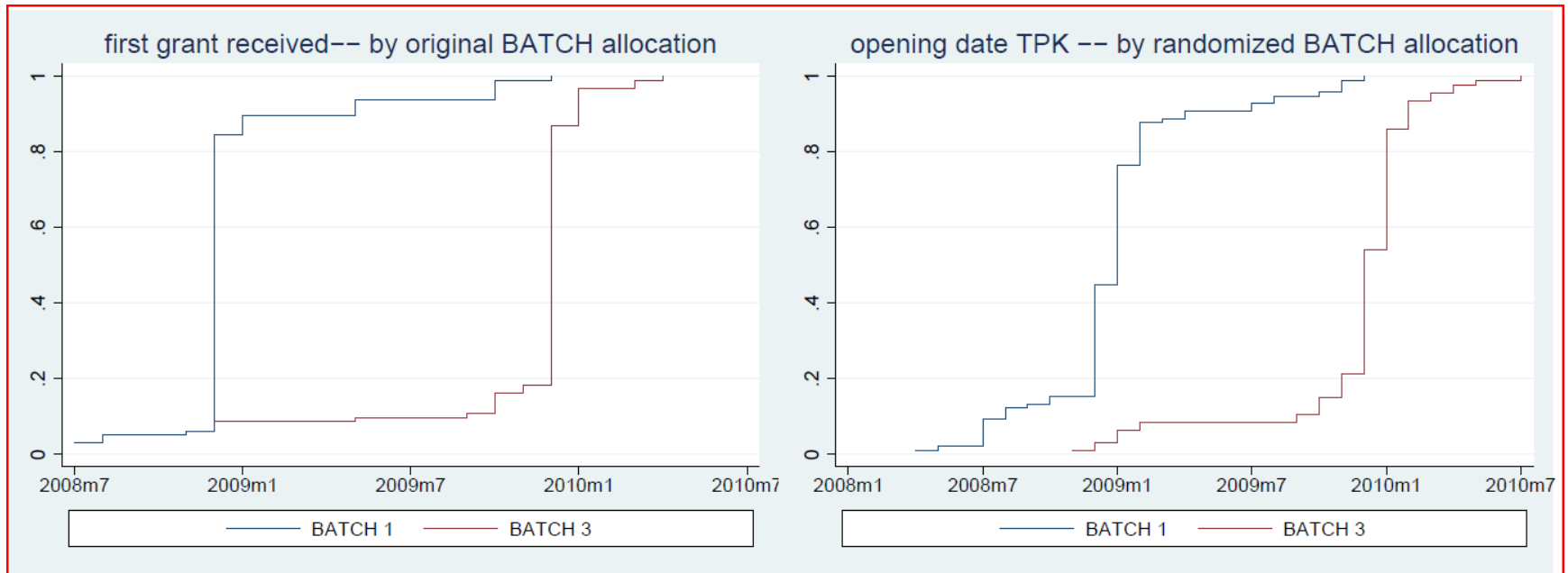
Project and Non-project Districts



Service provision in treatment and control areas is similar but not in matched controls

	Batch 1	Batch 3	Matched Control
Number of sub-villages	6.5	6.9	6
Number of children between 0 and 6 year olds	332	364	325
ECED project facilities (TPK)	2	2	.
Official kindergarten (TK)	1.6	1.7	1.9
Playgroups (KB)	0.4	0.4	1.0***
Day care (TPA)	0	0	0
Islamic Kindergarten (TPQ)	6.6	7.4	5.4
Other ECED facilities	0.6	0.2	0.7
Number of TK / 100 children	0.5	0.6	0.7***
Number of TPK / 100 children	1.1	1	.
Number of KB / 100 children	0.1	0.1	0.4***

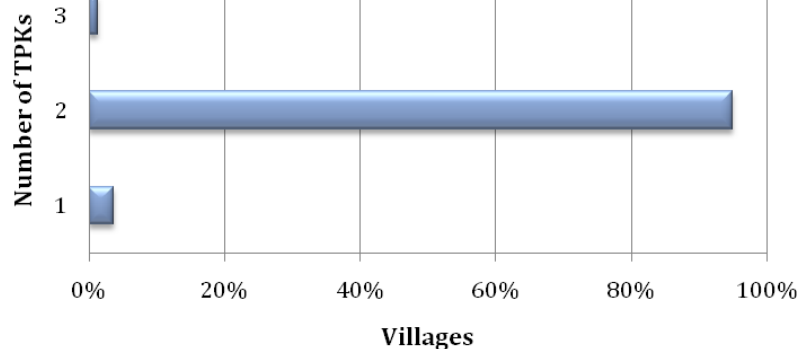
Adherence to randomization was not perfect...but acceptable



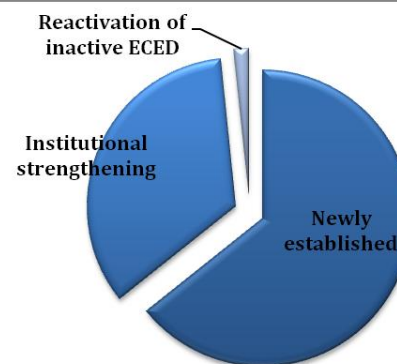
What did the project
provide?

Most villages have 2 TPKs and the majority were newly established with help of the grant

Number of TPKs / village

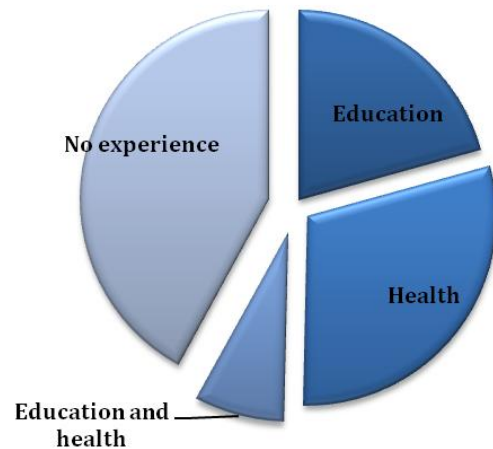


Use of block grants

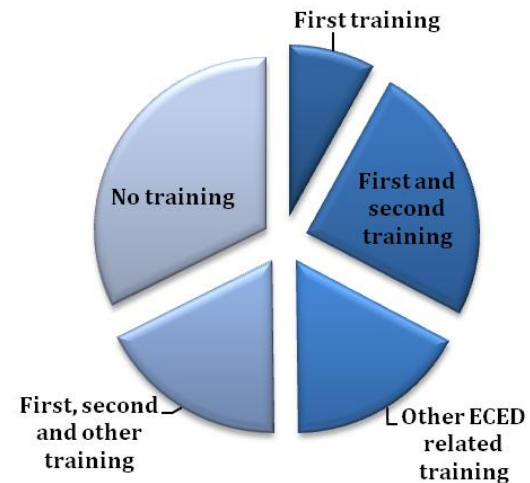


76% of teachers have completed senior high school but some lack experience and training

Experience is low

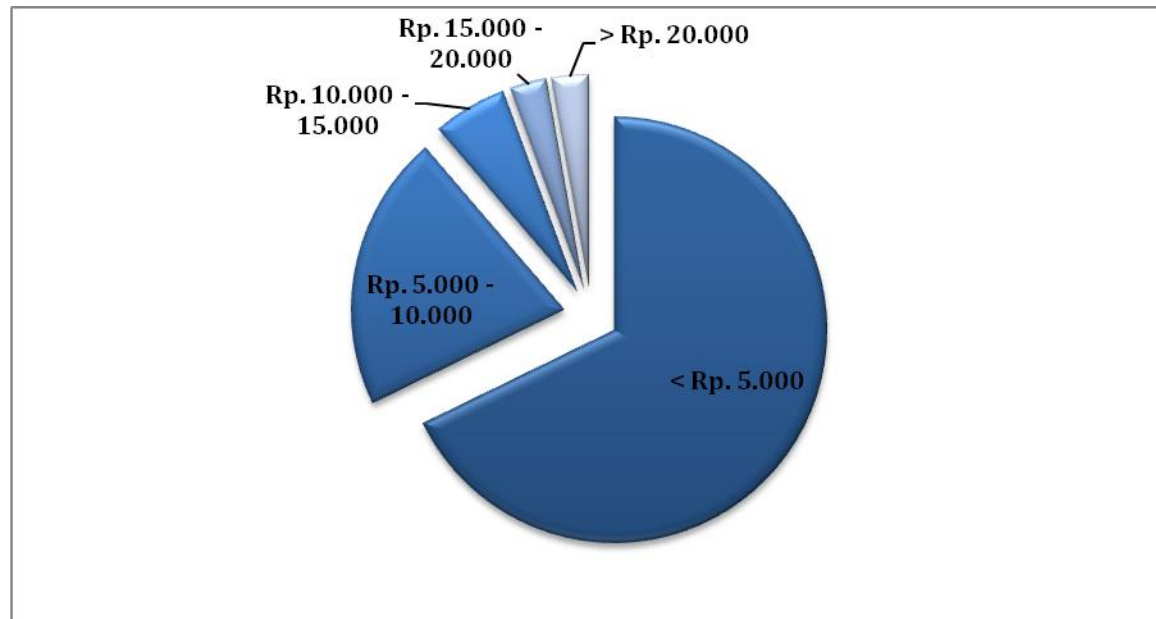


Not all teachers received 200 hours of training



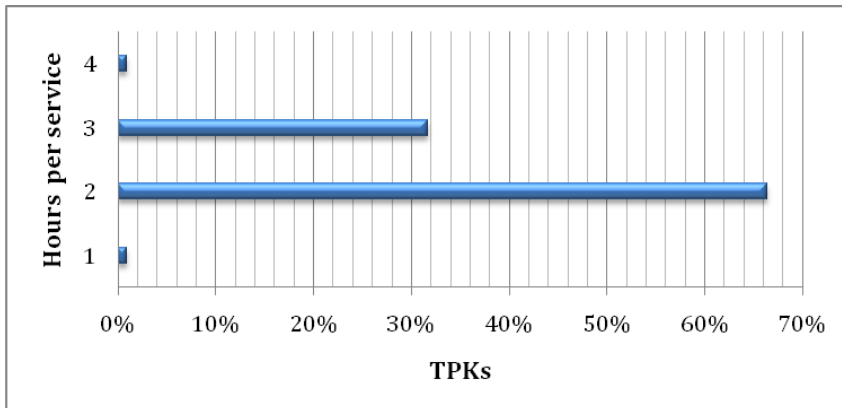
Fees are charged in half the centers

- Half the centers don't charge fees but the half that do impose mandatory fees on average charge IDR2,915 – though this varies greatly:

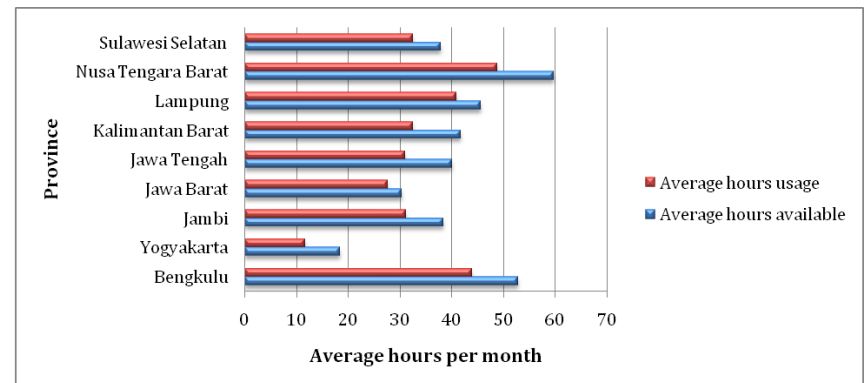


Services are not fully utilizing capacity

Hours per service



Capacity and Usage



What is happening to ECED overall?

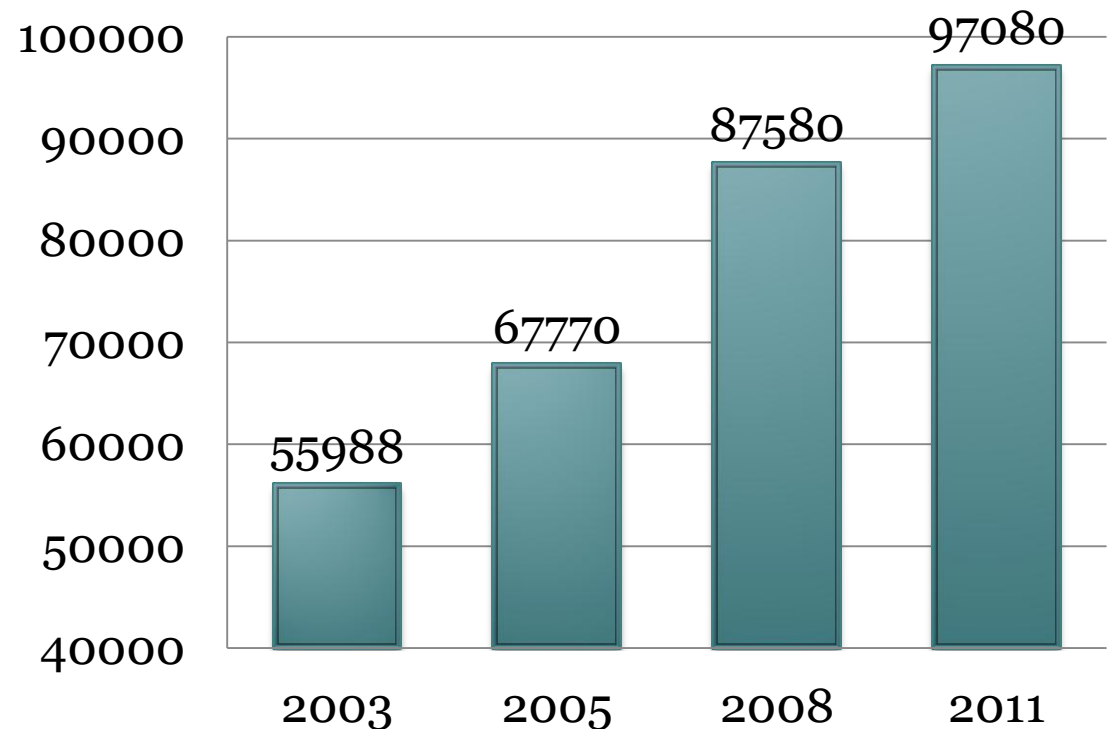
Work in progress

Supply of ECED is on the rise

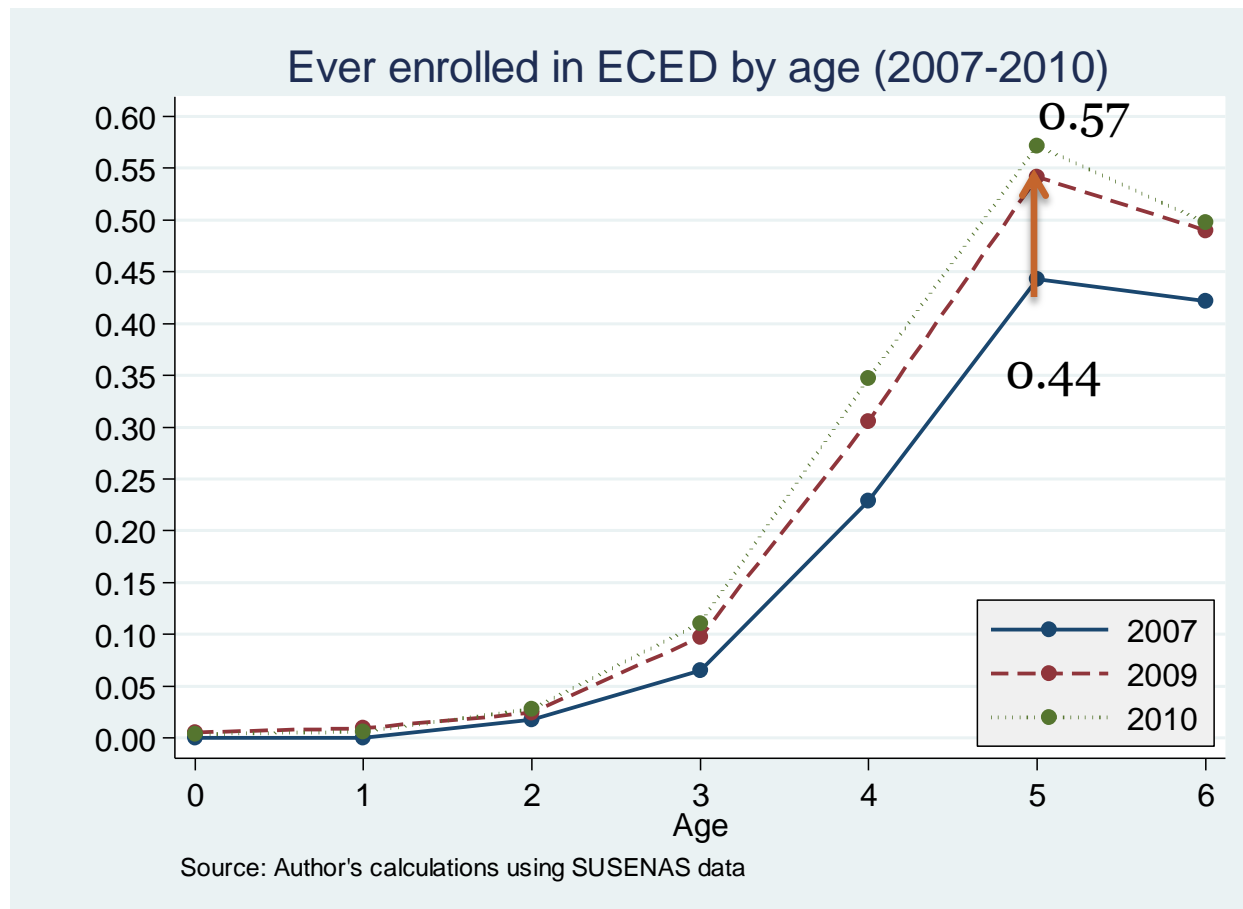
- Increase **from 56,000** TK's in 2003 to **97,000** in 2011

- 95% are “private”

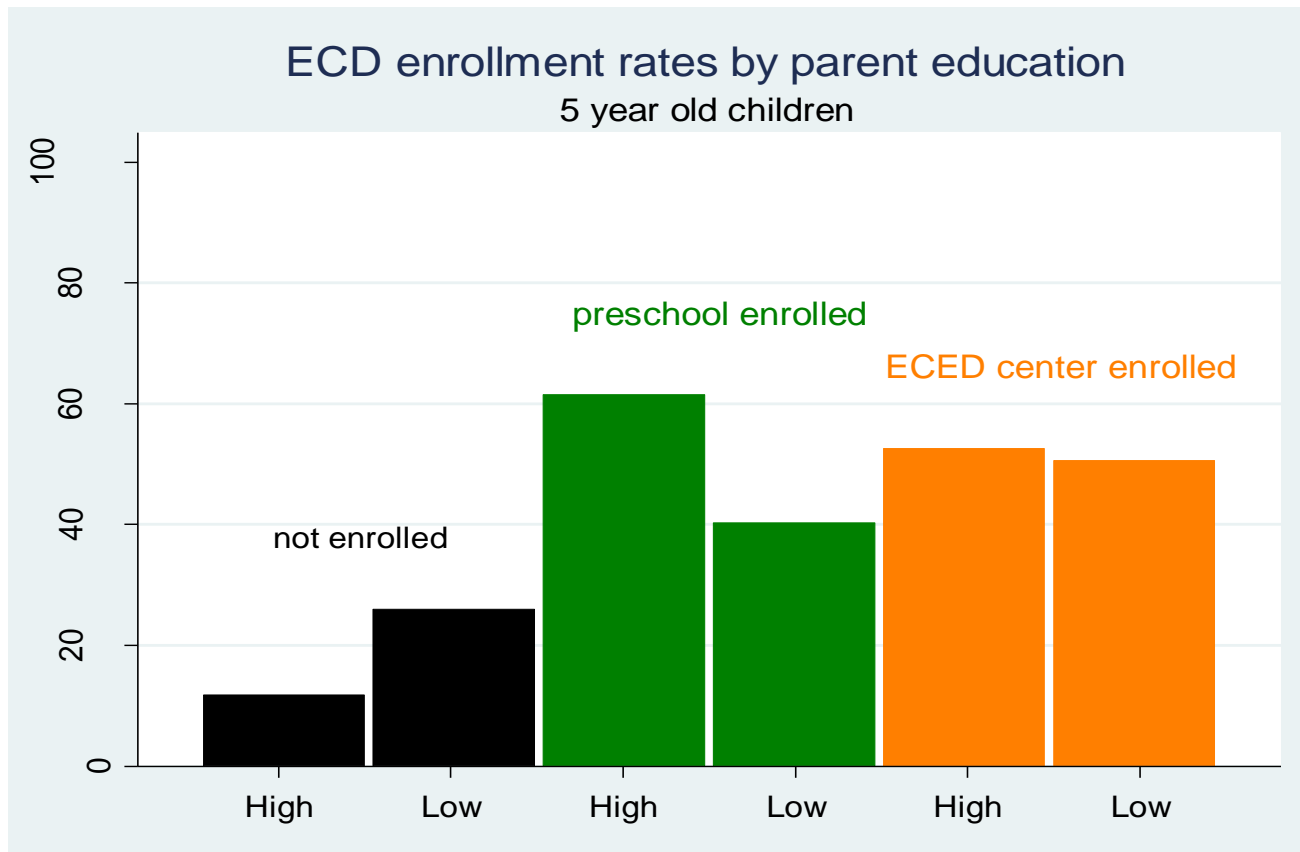
of kindergarten
Source: PODES



Demand is rising as well



Access to ECED centers - more equitable?



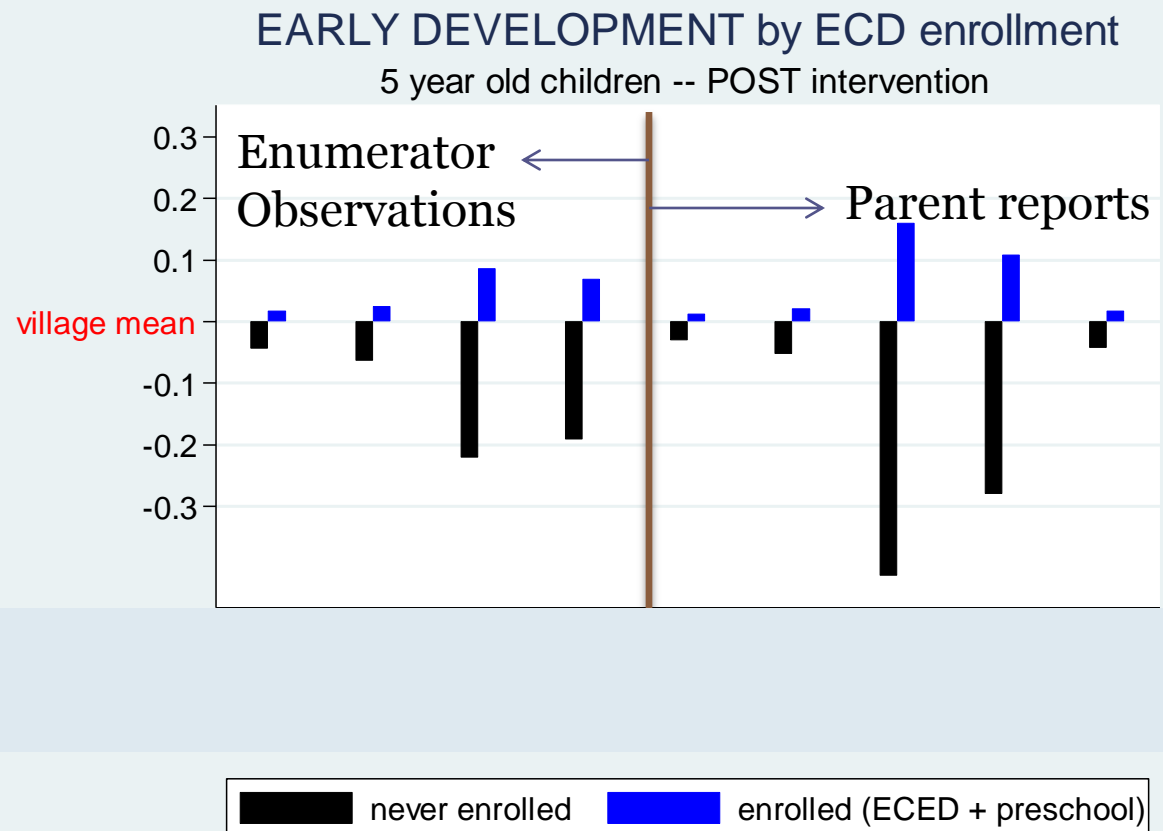
- **Enrollment rates by mother's education** (High=more than primary, Low=primary or less)
- The **ECED project facility** is *less discriminatory* to low SES families than **preschool**
- High enrollment in preschool + ECED combined (80% at age 5)

Does increasing enrollment mean better child development outcomes?

Analysis of baseline and midline data – work in progress

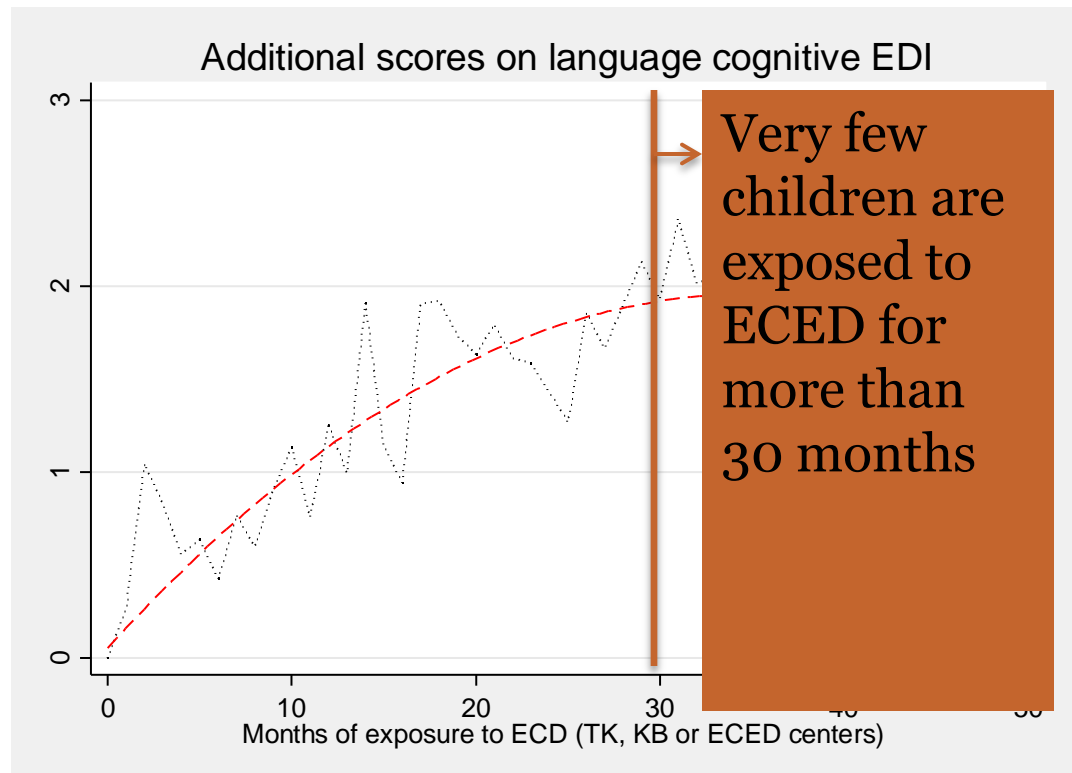
(Qualified) Yes...

- The never enrolled score systematically lower, mostly so on language-cognitive indicators



... Longer exposure to ECED associated with better child development outcomes

- Children with **one year of exposure to ECD** score a **full point higher** on language cognitive EDI
- This is equivalent to half a standard deviation
- Effect appears to increase with additional exposure



Next Steps

Analytical inputs to the policy dialog

Tentative outline of comprehensive report

1. The landscape of child development in Indonesia
2. What is an Indonesian child able to do and by what age?
3. When does demand not respond to supply of ECED services?
4. Which child, family, community characteristics relate to better development outcomes?
5. What is the role of facilitators?
6. Policy and practice implications

Terima kasih / Thank you!





Supplemental information follows

Children in the data

Age	Boys	Girls	Total
1	1,582	1,531	3,113
4	1,612	1,632	3,244
Total	3,194	3,163	6,357

The EDI measures readiness to learn at school on 5 domains such as

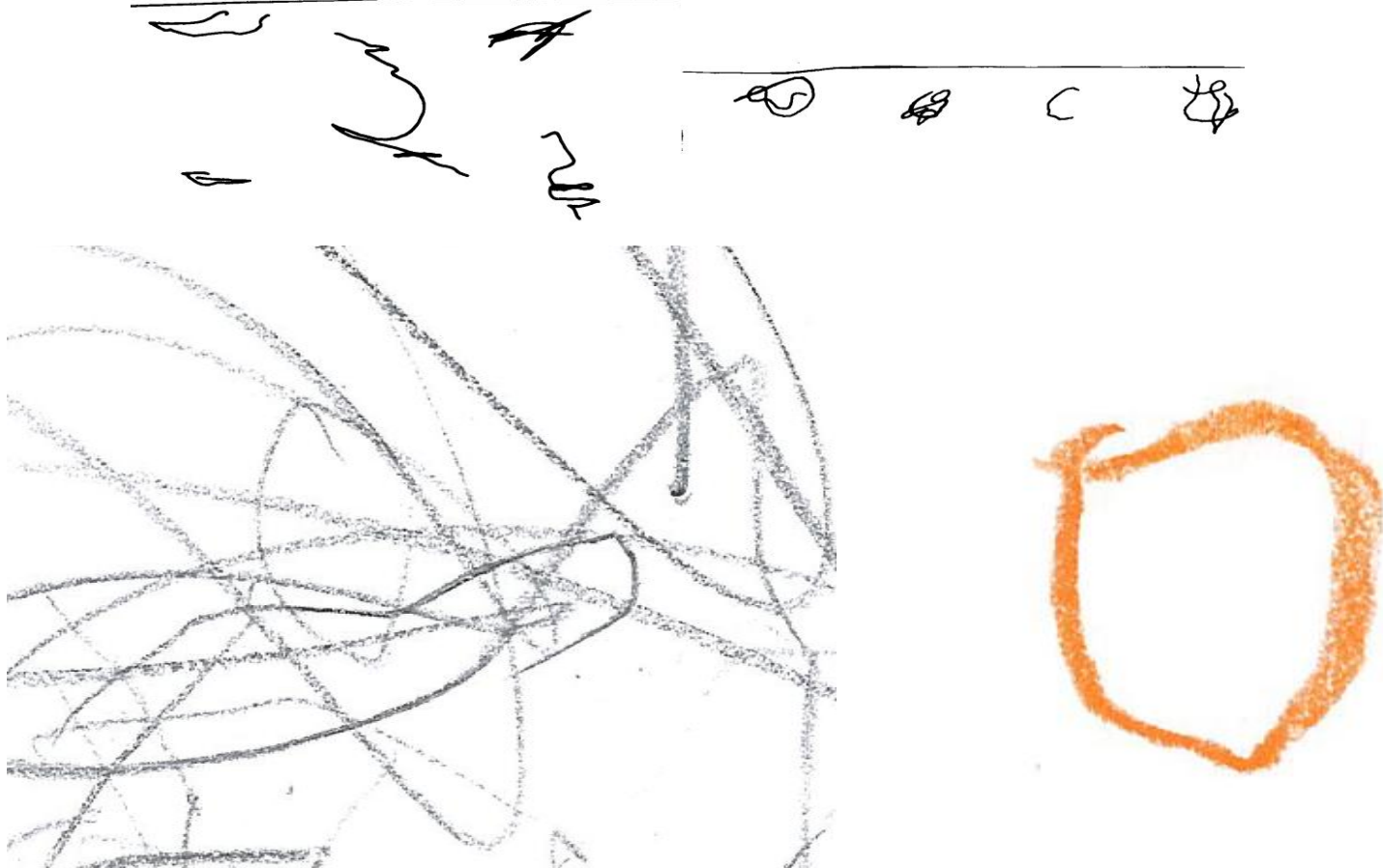
Language and cognitive development

- Which includes:
 - reading awareness,
 - age-appropriate reading and writing skills
 - age-appropriate numeracy skills
 - board games,
 - ability to understand similarities and differences,
 - ability to recite back specific pieces of information from memory

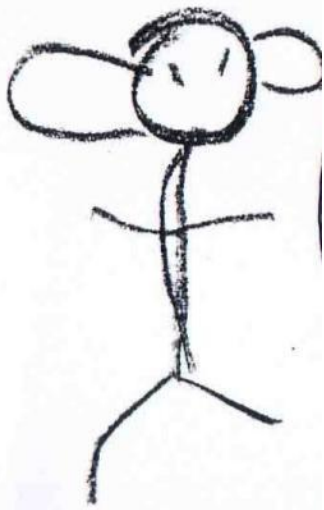
Communication skills and general knowledge

- Which includes:
 - skills to communicate needs and wants in socially appropriate ways
 - symbolic use of language,
 - story telling,
 - age-appropriate knowledge about the life and world around;

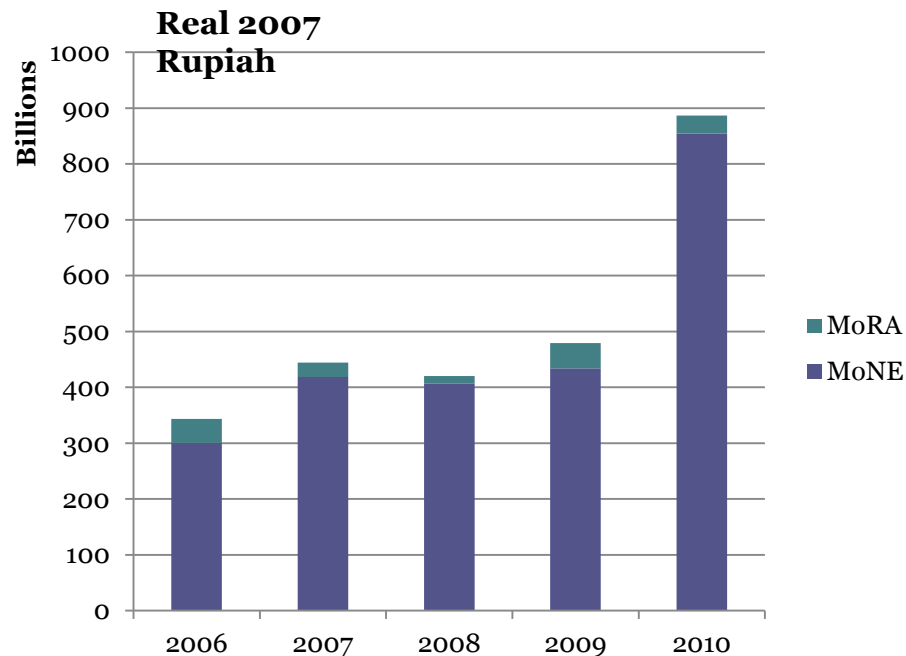
A child's drawing ability is related to fine motor and cognitive skills



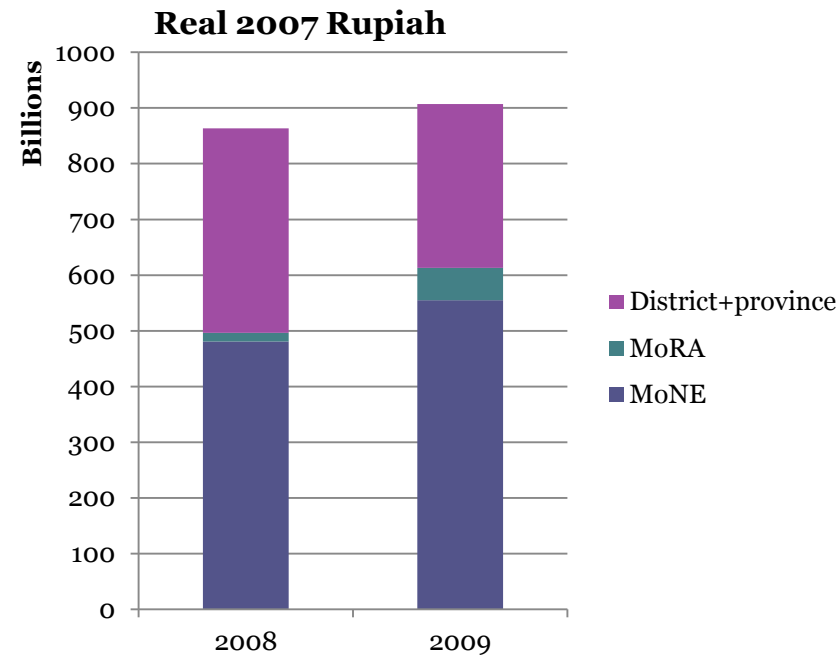
Range of cognitive development shown by drawing ability



Budget expansion: early childhood education



National government expenditures on preprimary education (2006-2010)



National + local government expenditures on preprimary education (2008, 2009)

- Government expenditures on preprimary education comprises +/- 1% of the total budget for education. Similar figures in Malaysia (1-1.5%), Australia (1%), Philippines (1%). EU, but also Thailand and Vietnam score higher (5-10%). *Source UNESCO Institute of Statistics*

Multiple instruments for the impact evaluation

1. Child tasks / observational
2. Primary caregiver
3. Household head
4. Village head (kepala desa or lurah)
5. Institution/Lembaga PAUD and/or ECED teacher

Primary Caregiver

1. Basic health of children,
2. Parent education
3. Knowledge of importance of ECD
4. Depression
5. Parental practices (warmth, care, punishment)
6. Immunization,
7. Nutrition of child (including breastfed)
8. Knowledge of, Access to and Utilization of ECED services,
9. Report on the child's physical health, social competence and emotional maturity, language, cognitive and communication skills (EDI, SDQ)

Child tasks / observation

1. Physical health
2. Social competence and emotional maturity
3. Language
4. Cognitive (Card Sorting Task),
5. Communication skills

A mix of enumerator observation, tests for the child (draw, throw, identify common objects – Ages and Stages) and the Card Sorting Task.

Household Head

1. Household location
2. Household listing
3. Religion
4. Income, household characteristics and assets (water, electricity, building type, toilet, sewerage, bike, TV etc)
5. Occupation
6. Education
7. Village integration/participation
8. Major household disruption (death, fire, illness etc)

Village Head

1. Location – dusun, population, geographical distribution/density (GPS)
2. Infrastructure and transport availability
3. ECED services available, frequency, quality, utilization, payment for
4. Local assets
5. Formal social connections
6. Perception of safety for young families
7. Safe areas in the community for child play
8. Food security / village shocks (flood etc)

The impact evaluation data are detailed

- We track a representative sample of village children – born in 2005 and 2008
 - Baseline - April 2009
 - Midline - July 2010
 - Endline – expected 2013
- 10 districts, 300 villages (200 project + 100 comparison villages) , 6000 children (3000 1-year olds + 3000 4-year olds)
- We measure children individually and construct 20 different indicators of ECED, along different domains. (observations + parent assessments)