

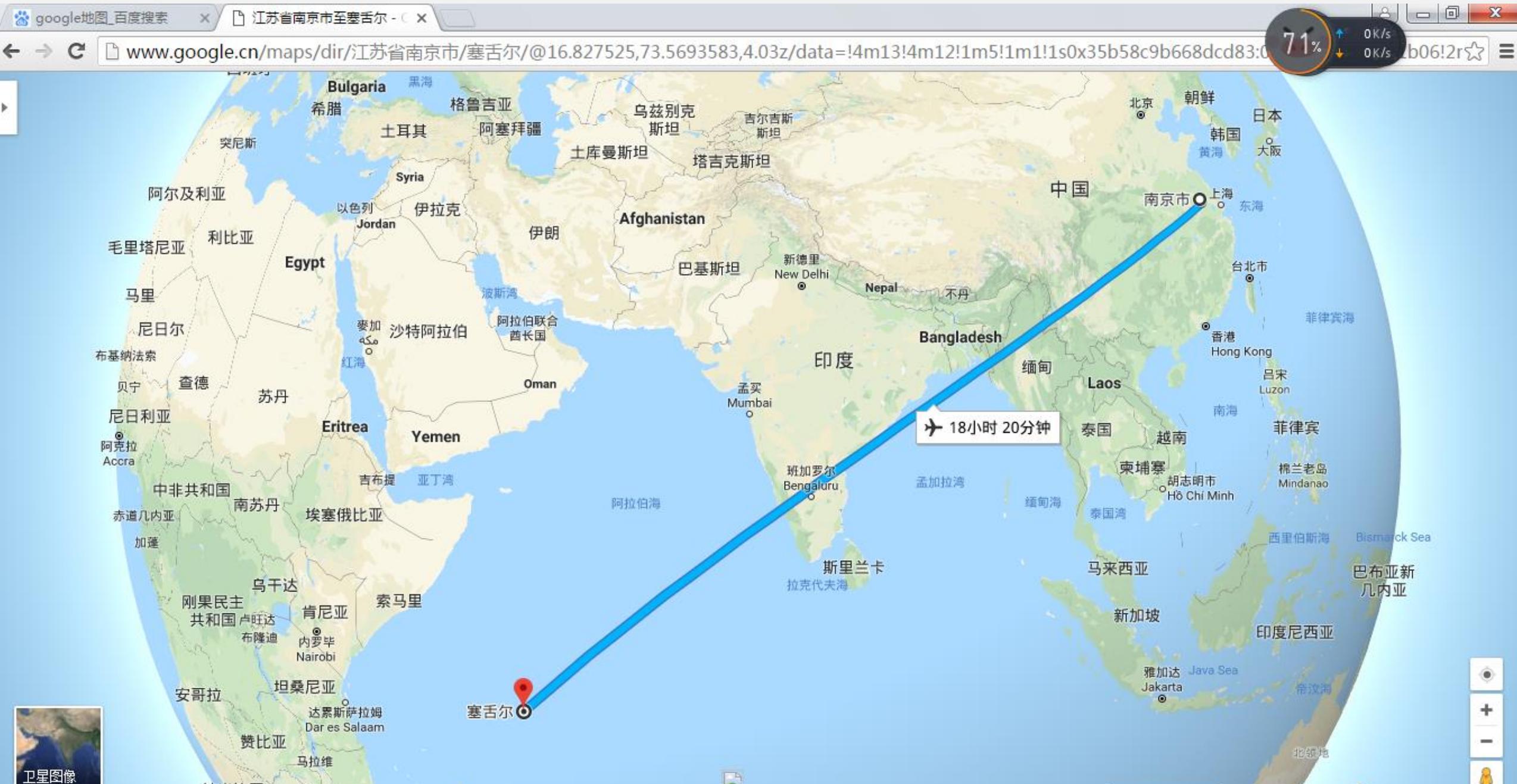


Using Big Data to Improve Preschool Education Policies in a Big, Unevenly-developing Country

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Thanks to UNESCO IBE, IECD Seychelles and those who helped me come here :)



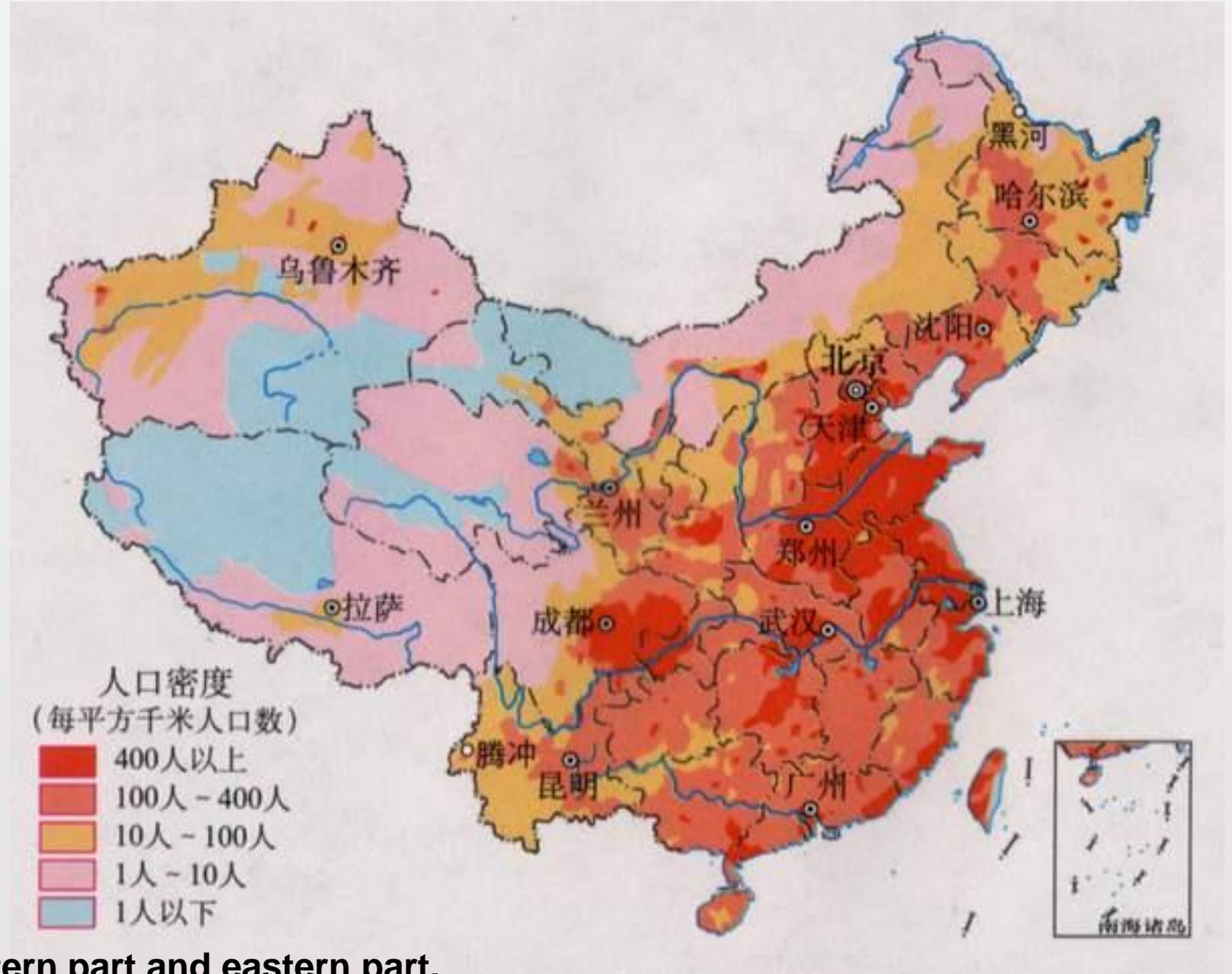
Outlines

- A Brief Introduction to the Current Development of Preschool Education in China
- Introduction to "National Pre-school Education Administration Information System" and It's Use in Policy Making
- Lessons and Challenges

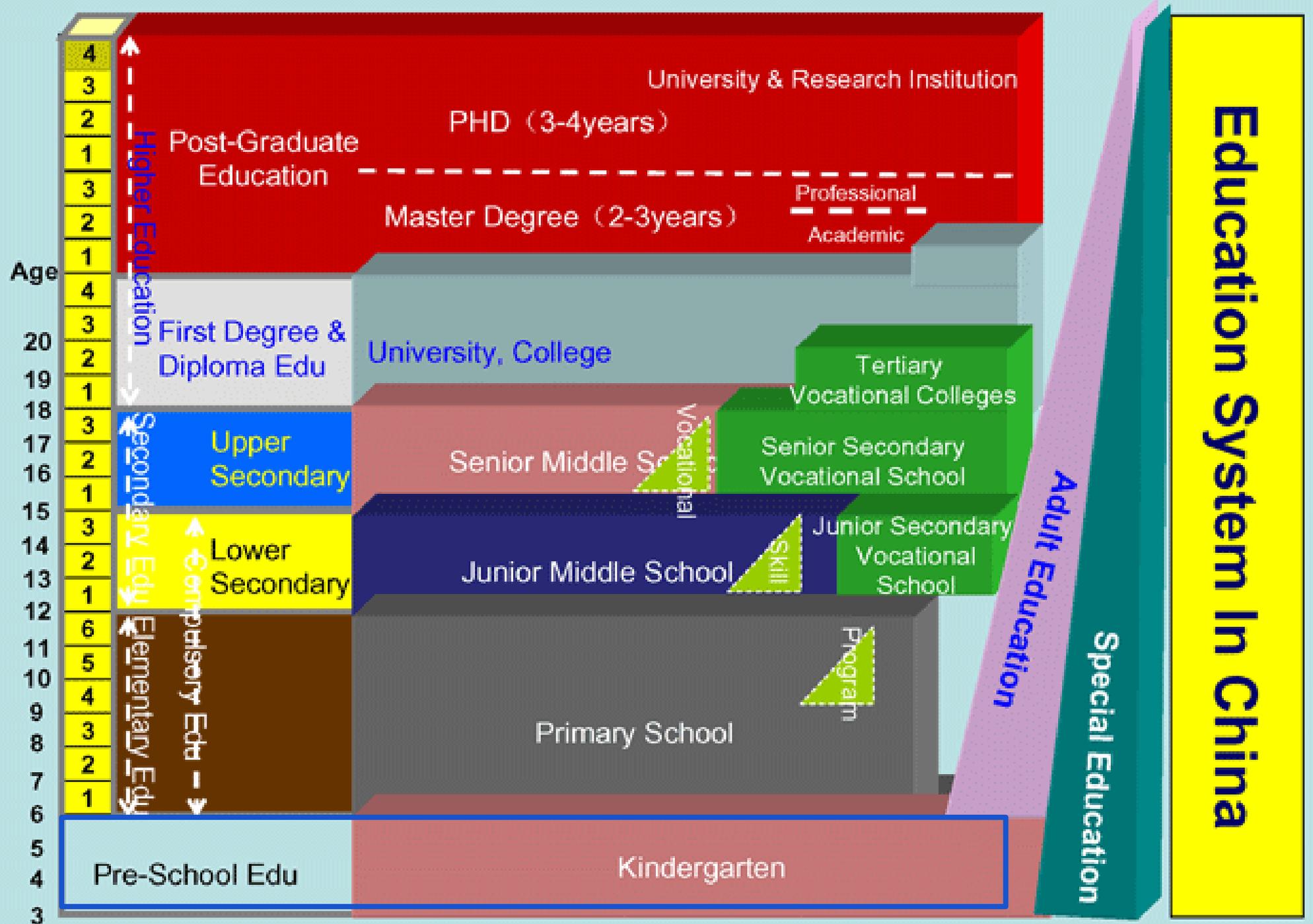
Preschool Education in China

Facts about China: a big, unevenly-developing country

- 9.6 million square kilometers
- 1.39 billion population
- under-6 year old
108.265 million
- 3-6 year old
57.46 million
- 56 ethnic groups
- 292 living languages
- 23 provinces, 5 autonomous regions and 4 municipalities directly under the Central Government, 2 Special Administrative Regions
- industrialization and urbanization since 1980s
- unevenly development between rural & urban, western part and eastern part.



The Concept of “Preschool Education”: for 3-6 year olds

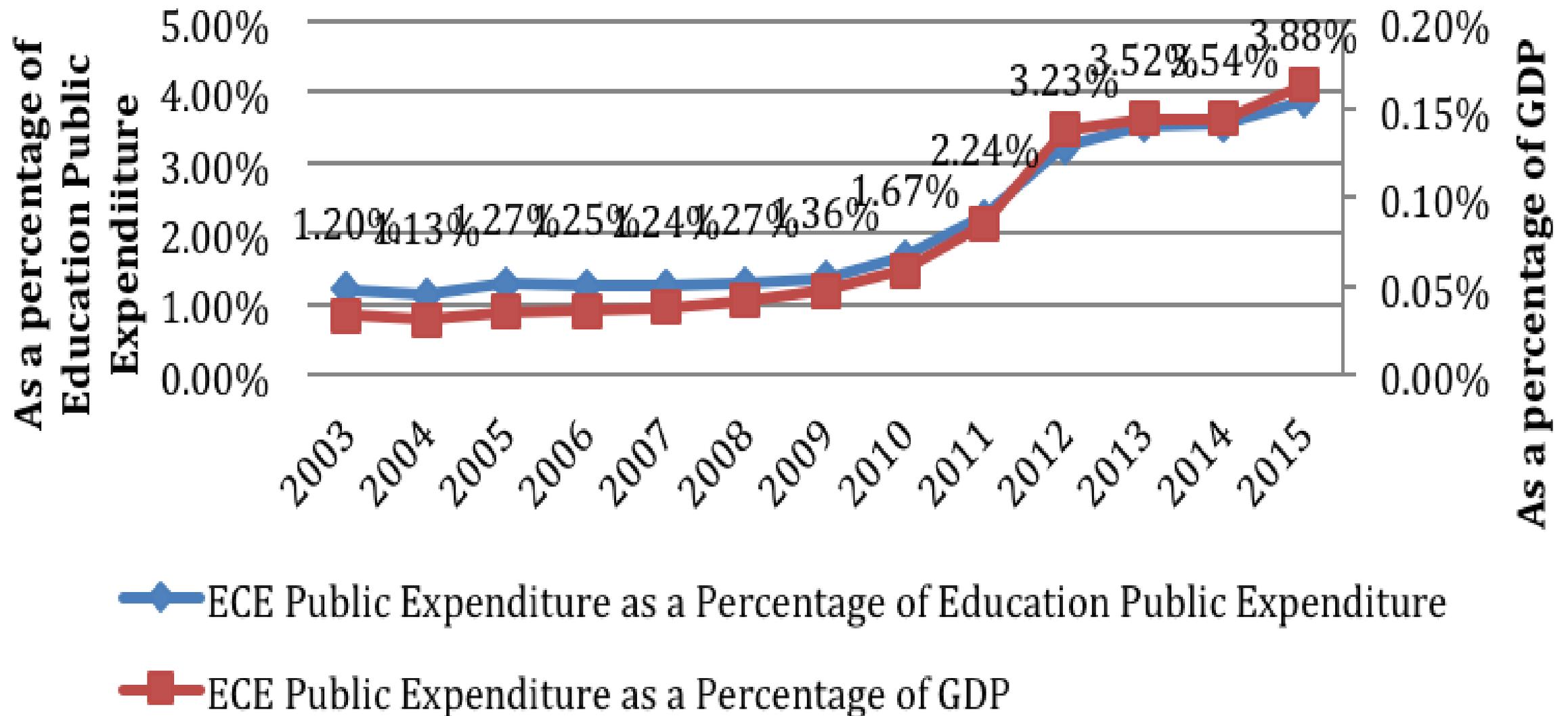


After 1980s, especially from 1990s on, with the industrialization and urbanization, the demands of preschool education increased dramatically. The problem so called “kindergarten crunch” and high kindergarten fees became increasingly serious. The central government set out to solve this problem since 2010.

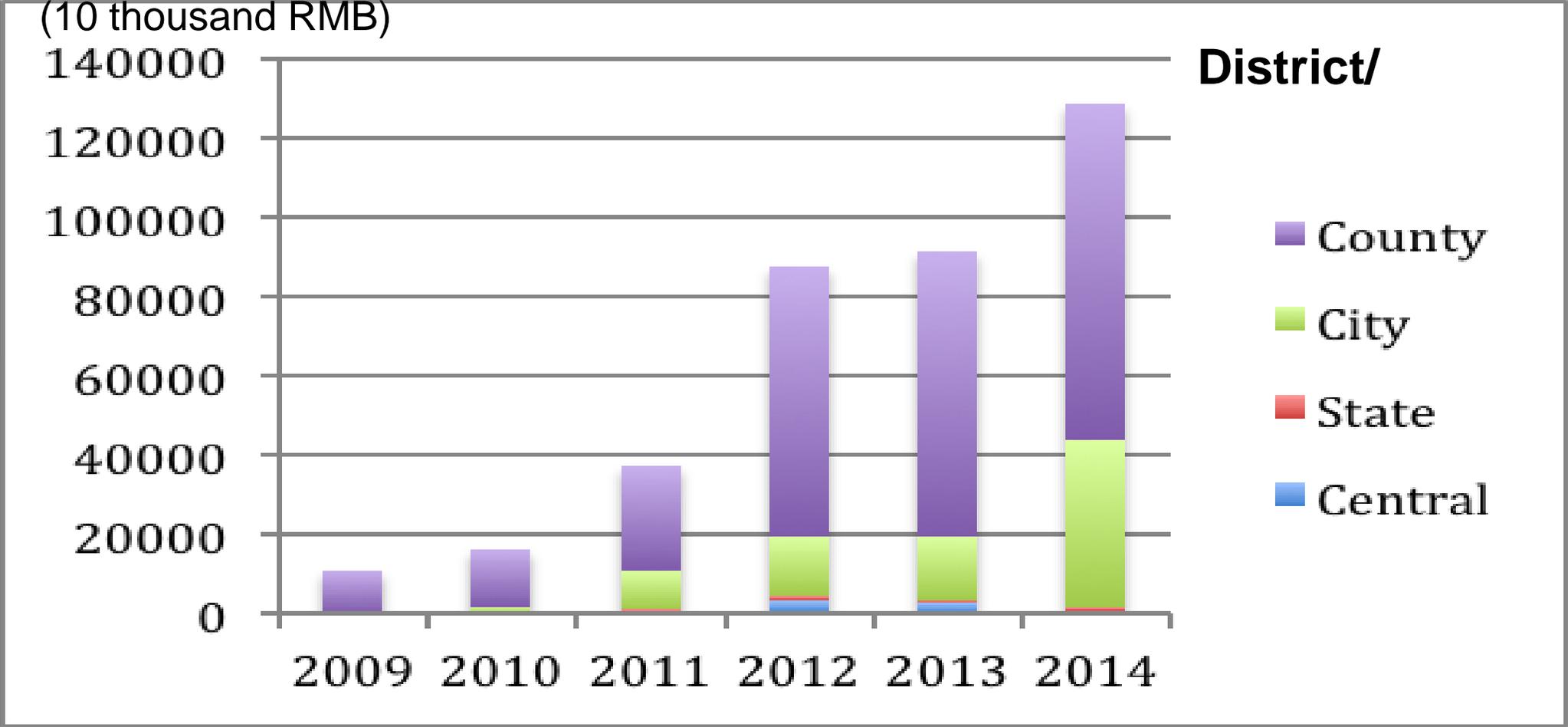
The goal is to establish an equal, quality and fee-affordable preschool education system for all children.

- From 2011 to 2013, the central government invested a total of 42.24 billion CNY to support the development of Preschool Education, stimulating and supporting the provincial, municipal and county/district government to respond to the public demand actively;
- From 2014 till now, investment from the central government maintained about 15 billion CNY per year, continuing to focus on supporting underdeveloping areas and disadvantage children groups.

The financial investment in ECE has increased significantly since 2010



The invest body changed from single level to multiple levels: Nanjing city as an example



Public ECE Expenditure Shared by Different Levels of Government
in Nanjing, capital city of Jiangsu Province

As a result,



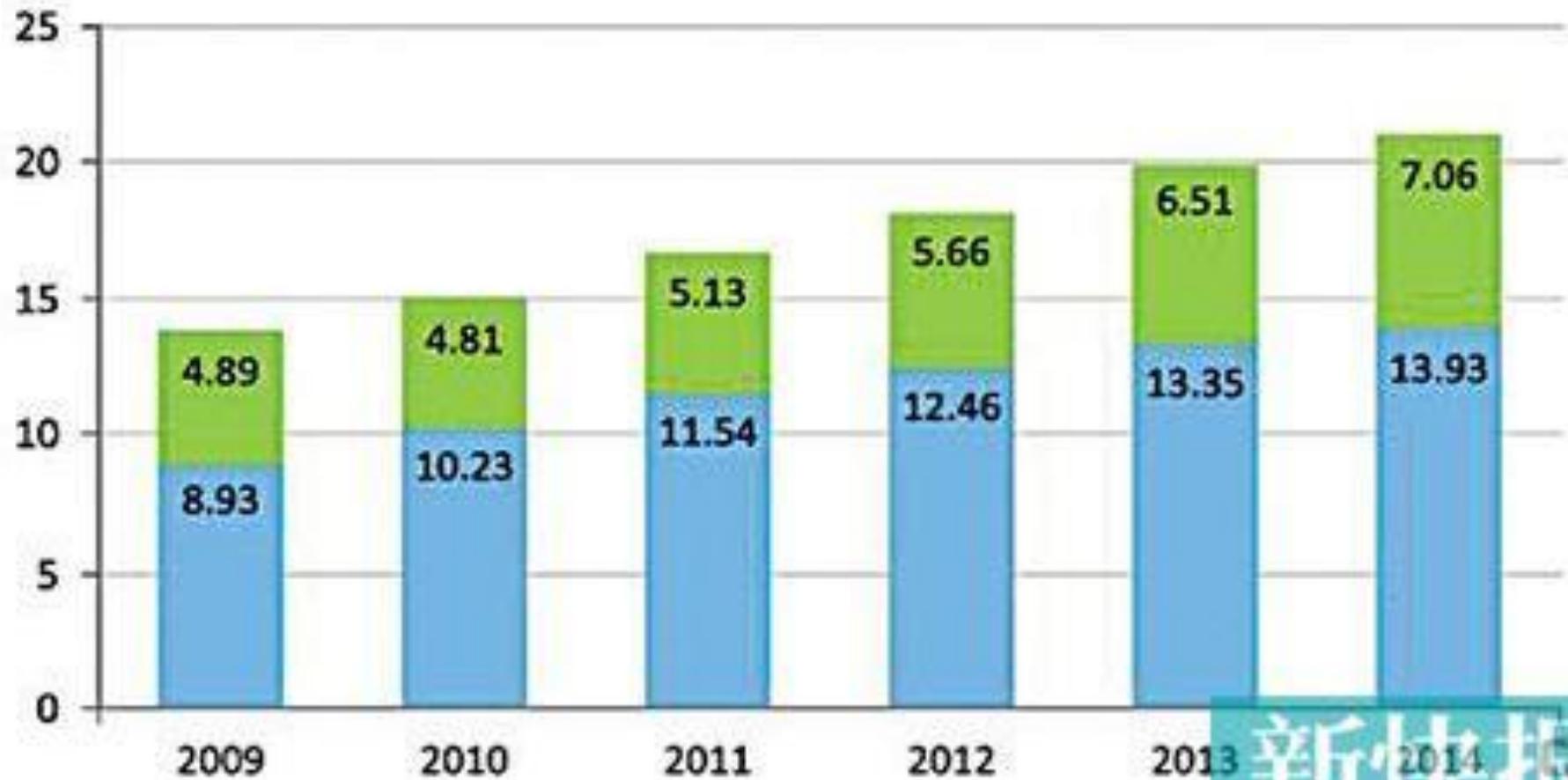
increase in number of kindergarteners and rote enrollment rate

cont.

(ten thousand)

public private

250 thousand



increase in number of public and private kindergartens

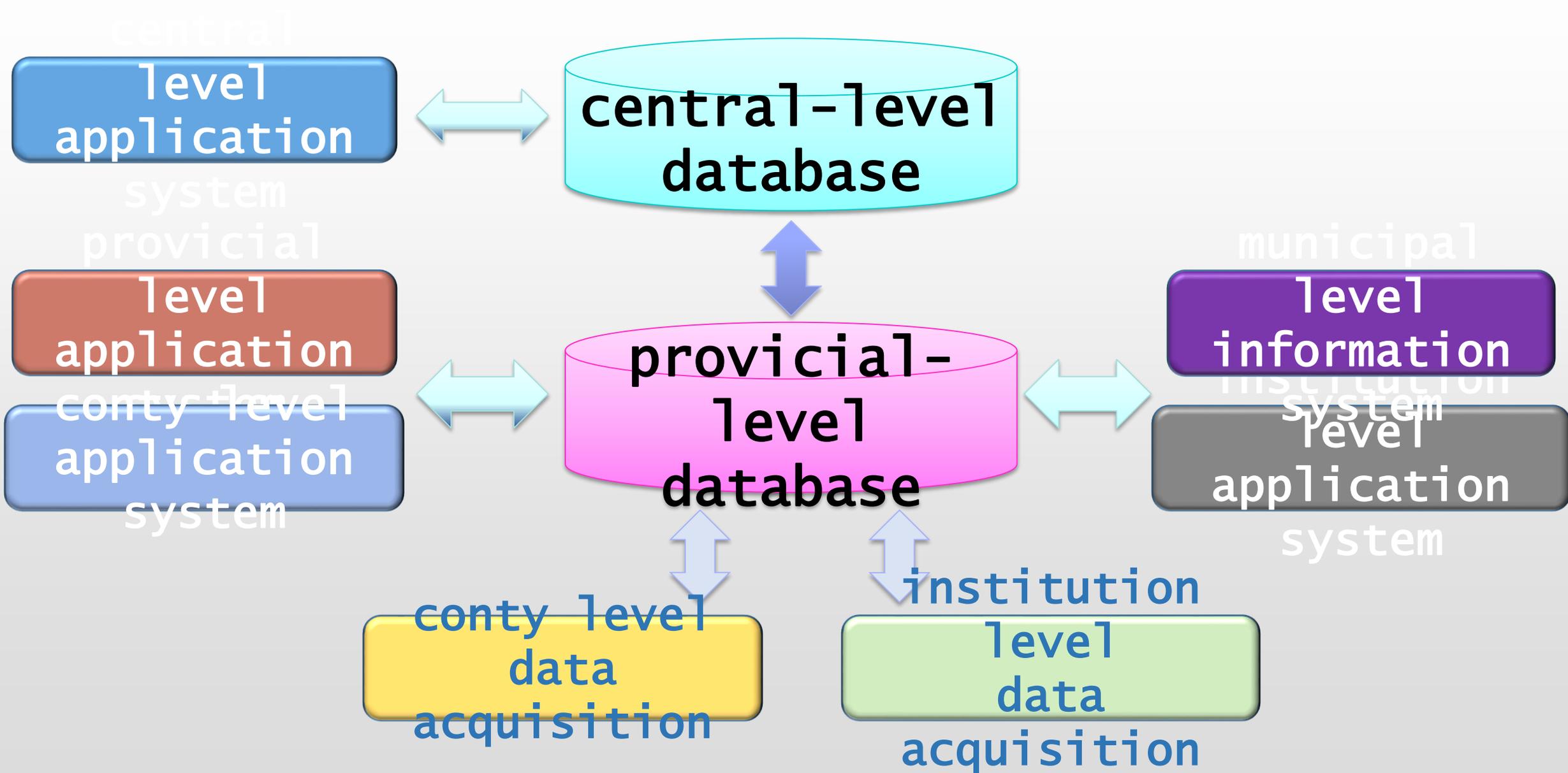
Ministry of Education feel the necessity of “big data” to managing the programs and investment

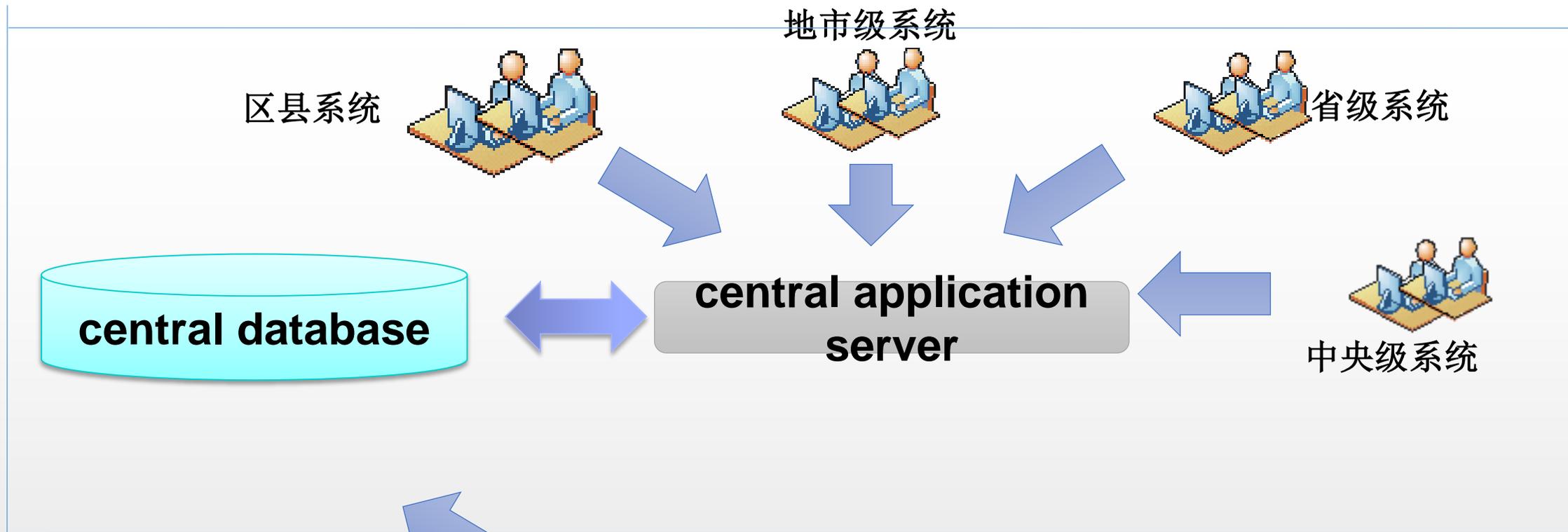
- “Let the initial data ‘run’ and ‘say’ ”:
- Did the investment changed the situation of kindergarten crunch and high fee? Is it enough in quantity and reasonable in distribution? How could duplication of construction be avoided?
- Is it possible to grasp the development status of so many ECCE institutions in a very short time? How could data exchange and sharing be more convenient? Is there any structural quality gap among preschools and different areas?
- **Did those disadvantage children get the support which they need most(nutritional, emotional and environmental)? How could the allocation of educational funds be based on the concrete children data and portability of funds be realized?**
- And, in conclusion, how is the ECCE policies effective and could it be adapted timely?

National Preschool Education Administration Information System

全国学前教育管理信息系统

The Framework of NPEAIS





The basic data of preschool education is acquired by the informationer at the institutional level, and district/county level and reported step by step to the central server.

区县级采集系统

学前教育机构级采集系统

two-level data acquisition

Two Categories of Data in NPEAIS

- ◆ Basic Data of Preschool Education
- ◆ Data of National Major Programs concerning Preschool Education since 2010



全国学前教育管理信息系统

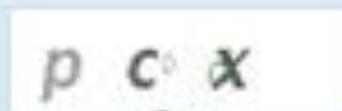
用户名:

192539

密码:

xueqian@201

验证码:



4



登录



重置



structural quality information (architecture)

办学条件建筑信息

建筑来源: 自建						
建筑结构类型	土木结构	砖木结构	砖混结构	框架结构		
园舍建筑面积 (自动汇总) (平方米)	0 *	0 *	0 *	0 *	0	
其中: 危房面积 (平方米)	0 *	0 *	0 *	0 *	0	
一、教学及辅助用房面积 (平方米)	0 *	0 *	0 *	0 *	0	
活动室面积 (平方米)	0 *	0 *	0 *	0 *	0	
盥洗室面积 (平方米)	0 *	0 *	0 *	0 *	0	
睡眠室面积 (平方米)	0 *	0 *	0 *	0 *	0	
保健室面积 (平方米)	0 *	0 *	0 *	0 *	0	
图书室面积 (平方米)	0 *	0 *	0 *	0 *	0	
二、行政办公用房面积 (平方米)	0 *	0 *	0 *	0 *	0	
其中: 教师办公室面积 (平方米)	0 *	0 *	0 *	0 *	0	
三、生活用房面积 (平方米)	0 *	0 *	0 *	0 *	0	
其中: 厨房面积 (平方米)						

information of financing

保存 | 提交 | 取消

基本信息

年度:	<input type="text"/>	*	学期:	<input type="text"/>	*
收入情况_财政拨款(元):	<input type="text"/>	*	收入情况_事业收入(元):	<input type="text"/>	*
收入情况_其他收入(元):	<input type="text"/>	*	伙食费标准(元/月):	<input type="text"/>	*
住宿费(元/月):	<input type="text"/>	*	其他服务性代收费(元/月):	<input type="text"/>	*
保教费标准(元/月):	<input type="text"/>	*	支出情况_社会保险费(元):	<input type="text"/>	*
设施设备购置(元):	<input type="text"/>	*	支出情况_办公经费(元):	<input type="text"/>	*
支出情况_水电气(元):	<input type="text"/>	*	支出情况_教学材料(元):	<input type="text"/>	*
支出情况_园舍租赁(元):	<input type="text"/>	*	支出情况_助学金(元):	<input type="text"/>	*
支出情况_师资培训(元):	<input type="text"/>	*	支出情况_其他(元):	<input type="text"/>	*
工资及津补贴(元):	<input type="text"/>	*			

息管理

>> 当前位置： 幼儿管理

● 幼儿学籍管理

- 新建幼儿学籍
- 问题学籍处理
- 关键信息变更
- 幼儿离园管理
- 幼儿调转管理

information of children migration

● 幼儿日常管理

- 幼儿信息维护
- 分班调班升级
- 幼儿信息查询

Information Summary of Enrolled Left-behind Children

序号	行政区划	合计				独立设置的幼儿园					附设幼儿园(班)				
		在园幼儿总数	留守儿童数		留守儿童比例%	在园幼儿数	留守儿童数				在园幼儿数	留守儿童数			
			计	其中：女			合计	城区	镇区	农村		合计	城区	镇区	
0	合计	0	0	0	0.00%	0	0	0	0	0	0	0	0	0	0
1	郑州市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
2	开封市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
3	洛阳市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
4	平顶山市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
5	安阳市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
6	鹤壁市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
7	新乡市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
8	焦作市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
9	濮阳市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
10	许昌市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
11	漯河市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
12	三门峡市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
13	南阳市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
14	商丘市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
15	信阳市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
16	周口市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
17	驻马店市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0
18	济源市	0	0	0	0%	0	0	0	0	0	0	0	0	0	0

Information Summary of Enrolled Migrant Children

序号	行政区划	区县数	其中：自 设行政 区域数	合计				独立设置的幼儿园				附设幼儿园			
				在园幼 儿 总数	进城务工人员随迁子 女		进城务 工 人 员 随 迁 子 女 比	在园幼 儿 数	其中：进城务工人员随迁子女			在园幼 儿 数	其中：进城		
					计	其中：女			合计	城区	镇区		农村	合计	城区
0	合计	191	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
1	郑州市	16	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
2	开封市	10	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
3	洛阳市	18	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
4	平顶山市	11	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
5	安阳市	11	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
6	鹤壁市	5	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
7	新乡市	15	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
8	焦作市	11	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
9	濮阳市	10	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
10	许昌市	8	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
11	漯河市	6	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
12	三门峡市	6	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
13	南阳市	18	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
14	商丘市	10	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
15	信阳市	10	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
16	周口市	14	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
17	驻马店市	11	0	0	0	0	0.00%	0	0	0	0	0	0	0	0
18	济源市	1	0	0	0	0	0.00%	0	0	0	0	0	0	0	0

Lessons and Challenges

Lessons

- Comprehensive and regularly collected data can make decision-makers more clearly and concretely grasp the development profiles of different regions and different need of various children groups. This could reduce uncertainty in decision making and make evidence-based policy possible.
- Even if the administration of ECCE is decentralized, the construction of the database should be led by the central government, which is conducive to data sharing, microscopic control or policy advocacy when necessary, and avoid duplication of hardware construction, incompatibility of systems and inconsistency of indicators.

Lessons(cont.)

- It is necessary to improve the information literacy of decision-makers of all levels, including enhancing their awareness of evidence-based decision-making and their ability to analyze data.
- For data acquisition, security and use, regulations need to be formulated to reduce dirty data and abuse of data. Insecurity of data abuse might affect the authenticity of the data acquisition process.

Challenges

- Reliable data acquisition
- Data Security Management
- Data Dig, to find implication of big data to policy making
- Further expand the indicator to child development outcomes and interaction among teachers, parents and children

Regulation on the Construction and Operation of NPEAIS (issued in 2014)

- Chapter I General Provisions
- Chapter II Organizational Institutions and Duties
- Chapter III Data Generation and Management
- Chapter IV Operational Maintenance and Technical Support
- Chapter V Children's Information and Kindergartener Record Management
- Chapter VI Supplementary Provisions

Article 12

- Data generation departments (units) are fully responsible for the authenticity, accuracy and completeness of the data submitted.

Article 18 data security

- (1) The use of all data in the system shall be allocated according to the user's permission. The user's right of use shall be divided and formulated by the administrative department of education at the corresponding level and submitted to the administrative department of education at the higher level for the record.
- (2) User identity is confirmed by password. Password is the basis of responsibility for data entry. Users of the system must strictly protect their passwords. They are not allowed to disclose their usernames and passwords. The passwords need to be modified regularly.
- (3) If you need to lend your password to someone else for use, you must first obtain the approval of the system administrator at the corresponding level and make the record. The original password must be revised in time after use in order to maintain the sole responsibility. If the owner of the password lends the password to others without authorization, he will take all the responsibilities for the consequences.

Article 19 Liability for confidentiality.

- (1) Educational administrative departments at all levels and preschool educational institutions shall establish strict confidentiality systems for the data obtained, and strictly prevent the disclose and abuse of information.
- (2) All data shall be used strictly within the prescribed scope, and any disclose or misappropriation are forbidden. Those who violate relevant provisions shall be dealt with seriously. If the circumstances are serious, the relevant personnel shall be investigated according to law.

Coping with Challenges: Manuals, Training Videos and Informaton Backtracking function

1	操作手册一套（4册），包括省级、地市级、县级和学前教育机构级用户手册	每省十套
2	采集系统DVD光盘一张，包括： 1）县级采集系统 2）机构级采集系统 3）培训视频教程 4）操作手册电子版 5）指标解释及填报说明	每省十张
3	管理信息系统（一期）用户账号	每省一套

Take-away Messages

- Central government should take responsibilities
- Promote general data awareness in the public from the beginning
- Show the good case of reasonable and cautious data use and at the same time set some bottom line for data-analysis and data-use to establish trust
- Training a group of data management experts
- Problem-oriented/goal-oriented data digging

**Thank You
and
Welcome
to Nanjing
China!**





<http://schools.njnu.edu.cn/edu/>