

**A Framework of
Monitoring System for Implementation of
China's National Plan of Education**

**中国国家教育规划实施
监测系统基本构架**

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**中国教育部发展规划司
Department of Development & Planning
Ministry of Education, P.R.China**

中国国家教育规划实施 监测系统基本构架

教育部发展规划司

一、研制国家教育规划监测系统的背景、目的与要求

1、背景：来自实践的需要

中国国家和省级教育中长期规划一般以五年为期。从总体上看，我国教育规划的贯彻实施情况是比较好的，教育规划在推进我国各级各类教育事业发展中发挥了重要的作用。

随着中国社会经济体制和教育体制改革的不断深入，教育规划也面临着来自发展和改革两个方面的挑战。一方面，要继续探讨适应市场体制的教育规划的运行机制，这方面，我们还有大量的工作要做。

另一方面，教育规划工作本身还有待进一步完善。在实际工作中，往往存在这样一些现象，例如，规划编制工作一经结束，以为万事大吉了，把规划束之高阁，一些领导便不再过问；由于教育行政部门工作较多，从事规划工作的人员去忙于其他事务性工作，影响到规划工作水平和专业人员业务素质的不断提高；规划实施中经常会有很多情况，从中可以发现问题，总

结规律，这方面仍然是比较薄弱的环节。

1996年，教育部曾经颁布一套教育规划实施监测指标，并着手开展了一些监测工作，以保证国家教育事业的健康发展。近年来，教育部陆续发布了全国年度规划实施情况的监测报告、五年规划实施的总体监测报告等文件，我国西部各省也结合本地实际，开展了教育事业规划和发展的监测工作，并在部分县也开展了试验，效果良好。

尽管我国的教育规划以及规划实施状况的监测工作已经起步，并得到了各级教育主管部门和社会各界的重视，但仍亟待加强，需要进一步完善。

2、目的：探索宏观管理新机制

中国从传统的高度集中的计划体制到市场经济体制的转变，需要逐步建立与之相适应的新的教育规划管理与运行机制。在市场经济体制下，教育规划所面临的环境变了，规划涉及的因素和变量复杂程度大大提高，这就需要我们不断探索、并努力实践符合新体制的教育规划实施监测新的运行机制。

监测教育规划实施的进展情况，并对实施过程中出现的新情况、新问题作出灵敏的反应和及时的分析判断，有助于国家教育管理部门进行宏观管理调控和分类指导，增强各地区教育发展的自主性和自我完善、调节机制，以保证教育规划总体目标的顺利实现。

3、监测系统的基本要求

——应反映国家和地方教育发展的适应性、协调性与可持续性。在设计国家和地区教育规划实施的监测系统中，我们应当注重监测各级各类教育的“规模、结构、质量、效益”的协调发展情况，以及全国和各地区的经济社会发展对教育

的支撑能力、需求等良性互动关系；

——应具有动态分析和预警功能。监测指标的设置要与教育规划目标紧密结合，对教育规划的执行结果进行跟踪监测，对实施过程中出现的波动和偏离规划目标的情况作出预警，以及对出现的新情况、新问题作出及时的判断与反应；

——应适应教育发展国际化的趋势。监测指标体系应充分考虑到教育的国际交流与合作，以开放的国际视野进行构建，指标的设置要利于国际间教育发展水平的横向比较和交流，有利于促进我国教育的国际交流与合作，因而，监测系统及指标要能够反映我国教育国际化程度的发展情况；

——应综合运用多种监测手段。教育规划实施监测系统是一个综合的分析、判断、评价、监督、反馈、调整等多阶段复合而成的管理系统，需要多种方法、工具和监测手段共同发挥作用。从监测系统的有效性看，结合我们自身实践的经验，监测过程的主要环节包括：一套符合实际的监测指标体系以及根据指标进行的数据分析；一支高水平的专家队伍及其相应的综合分析、判断与评价；一条畅通的社会信息反馈渠道；动态调节机制等。依赖上述及其他方面的相互协调与高效运作，我们今后的监测系统的质量和效率就有了较好的基础。

二、监测指标体系的构建

监测指标体系由综合评价层、要素层、监测指标和基本数据指标四级层次组成。

(1) 综合评价层

对国家和地区教育规划实施状况以及教育发展的总体水平进行综合评价。不仅评价教育各要素的发展水平，也注重对各要素之间发展的协调性、相互匹配促进程度，以及教育与经济

社会发展协调程度。

综合评价将根据所制订的监测指标体系，从量化指标和非量化指标的整体发展水平、从指标系统与专家评价的结合上，既实现教育规划的监测功能，同时，也将通过这一监测系统对完善中国的教育规划系统进行分析与调整，以达到不断完善教育规划及规划运行的质量和效益。

(2) 要素层及监测指标

要素层包括下述九大类指标集：教育规模发展及普及水平、教育结构、教育质量、教师队伍建设、办学条件、教育经费、高教学科建设与科研，教育国际化、经济社会发展情况等九大要素。各大要素类近期选择的主要监测指标，初步考虑具体包括以下诸方面（详见附件）。

指标集一：教育规模发展及普及水平

包括各级各类教育招生、在校生规模及增长率，适龄人口的入学率。“两基”成果与进展，成人教育培训总规模及当年参培率。

指标集二：教育结构

学校布局结构、教育层次结构、教育类型结构（职业教育与学科教育、高中阶段普职比、高等教育本科与高职、专科之比）、学科结构、办学主体结构（各级教育中公立与非公办学校、规模及比例）。

指标集三：教育质量

各级教育按时毕业率、辍学率、升学率、教学质量专家评估与社会征询、毕业生初次就业率，毕业生的社会评价、学生各级考试的合格率、通过率，平均班级学额与超大学额班级的比例。

指标集四：教师队伍建设

各级教育的数量配备、教师资格合格率、专任教师学历、职称情况、教师进修培训情况、师德、师风的系统内部评价与社会评价。

指标集五：办学条件

各级教育基础设施配置总量、生均水平及更新改善情况，主要办学条件达标学校比例、学校危房比例、教育信息化建设水平，教学业务费支出水平。

指标集六：教育经费

社会教育经费投入与总支出人均水平及增长率，经费来源构成和变动、政府投入努力程度（两个比例、三个增长）、各级教育生均事业性经费支出及构成，社会教育经费总投入与财政性经费投入在各级教育中分配的比例，各级教育基建投入（监测连续年份）。

指标集七：高教学科建设与科研活动

重点学科建设、重点实验室建设、高校科研活动的投入与产出。

指标集八：教育国际化程度

出国、来华留学生数、出国和来华任教、研究考察、与学术交流人数，国内举办和赴国外参加的国际学术会议次数、参加人数和交流论文数，国际合作办学情况。

指标集九：经济社会背景

经济发展水平（GDP 总量、增长率、人均 GDP 城乡人均收入、产业结构）、人口与社会（人口总数、人口密度、15-64 岁人口平均受教育年限、城市化水平）科技发展（高新技术产业总量及占生产总值比例、每百万人拥有科学家工程师人数，全社会

R&D 经费投入及占 GDP 的比重)。

三、监测系统运行的初步设想

(1) 分级监测系统

根据我国各地区发展不平衡和地区对教育总体发展的统筹监管能力，教育规划实施情况监测系统建设分为三个层级：国家级、省级、抽样监测点。

国家级 由教育部负责监测指标体系建立，统一指标的口径采集要求和设计网络，对监测系统运行的管理，对全国教育规划实施情况和各地区进展情况的监测结果汇总分析，发布监测公报，以加强对全国教育发展的宏观管理，与对各地区的分类指导。

省级 由各省教育主管部门负责对本地区教育发展情况的数据信息采集、统计报送教育部，并发布本地区教育规划实施情况的监测结果，提出促进或调整的建议方案。各省、直辖市、自治区也可根据本地实际独立开展对本地区教育规划实施情况进行监测。

抽样监测点 旨在通过对教育基本层面的监测和征询调研对宏观和省级层面的发展基本态势和新问题进行深入分析评判，同时也为一些难以量化的有关教育质量、政策制度建设等方面提供评价的依据。抽样监测点的设立，基础教育以县为基本单位，按东、中、西地区的中心城市、一般地区和边远贫困地区分层抽样是 30-50 个点。约占县级行政单位的 1-2%；高等学校以校为基本单位，按东、中、西地区的特大城市、中心城市、中、小城市分层抽样是 30-50 个点，约占高校的 2-3%。抽样监测点由教育部与省主管部门共建，教育部提供技术支持包括制订监测方案，组织专家开展征询评价。地区主管部门提供必要经费。

（2）监测系统的运行

——监测系统运行将通过以下步骤开展：

建立科学和灵敏的监测指标体系，以较全面反映全国教育事业发展状况与规划实施情况。

——监测指标的信息、数据采集与测算，以教育部统计数据为主，结合专家评估与社会征询、实地调研等多种形式，形成监测初步结果。

——建立专家评价系统，教育部组织各方面专家对监测系统的建立，包括监测指标体系、监测结果等进行咨询评估。

——建立社会评价与信息反馈系统，广泛听取社会各方面（包括用人单位和家长等）对教育发展、以及教育规划监测运行和监测结果的意见建议，以更好促进教育发展与监测系统自身完善。

——监测的结果与措施 教育部在广泛听取专家与社会各界意见基础上，发布全国教育规划实施情况的监测公报，对全国与各地区教育发展提出指导性意见，将对教育质量、办学条件等主要方面存在的问题以及这些问题集中的地区提出预警，进行引导，必要时对相关政策进行调整，直至对规划的有关内容做出中期调整。

附：全国教育规划实施情况监测指标体系

综合评价	
<p>➤ 对国家和地区教育规划实施状况以及教育发展的总体水平进行综合评价；</p> <p>➤ 综合评价将根据监测指标体系，从量化指标和非量化指标的整体发展水平，从指标系统与专家评价的结合上，实现教育规划的监测目标；</p> <p>➤ 通过教育规划监测系统不断改进、完善中国教育规划和教育发展的水平。</p>	
要素层	监测指标
1. 教育规模 发展及普及 水平	1.1 各级各类学校的招生、在校生数及变动情况 1.2 小学、初中、高中、大学的适龄人口入学率 1.3 当年青壮年文盲扫除人数与青壮年文盲率变动情况 1.4 “普九”地区和人口覆盖率 1.5 每十万人口的在校大学生数 1.6 成人教育培训规模及当年参与情况
2. 教育结构	2.1 学校布局结构 <ul style="list-style-type: none"> ☞ 分城乡每十万人口的幼儿园、小学、中学学校数 ☞ 每百万人口的高等教育机构数 ☞ 设有高校的中小型城市比例 2.2 教育层次结构 <ul style="list-style-type: none"> ☞ 初中、高中、大学招生、在校生数构成 ☞ 高校的专科、本科、研究生招生、在校生数构成 2.3 教育类型结构 <ul style="list-style-type: none"> ☞ 高、中等职业教育与学科教育招生、在校生构成 ☞ 高中阶段招生、在校生普职比构成 ☞ 高校本科与高职专科招生、在校生构成 2.4 学科结构 <ul style="list-style-type: none"> ☞ 高校招生、在校生的学科构成 ☞ 当年招生快速增长或减少的专业 2.5 办学主体结构 <ul style="list-style-type: none"> ☞ 各级教育中公立学校、学生数的比例 ☞ 各级教育非公立学校、学生的新增数及占总数比重

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要素层	监测指标
3. 教育质量	3.1 小学、初中学生按时毕业率、辍学率 3.2 小学、初中、高中毕业生升学率 3.3 职业教育、高等教育毕业生的初次就业率 3.4 各级教育质量的专家评估与社会征询 3.5 高校毕业生的录用单位评价、薪酬和职位变动 3.6 学生各种考试合格率、通过率 3.7 学生体育达标率 3.8 中、小学的平均班额，超大班额班级的比例
4. 教师配置与队伍建设	4.1 各级教育生师比（小学、初中分城乡下同） 4.2 兼职、代课教师比例 4.3 教师资格合格率 4.4 专任教师学历及新增教师学历 4.5 教师的中、高级职称比例和中青年教师的比例 4.6 教师当年参训率及教师进修培训制度建设 4.7 师德、师风的系统内部评价与社会评价
5. 办学条件	5.1 各级教育基础设施配置质量、生均水平及更新改善状况 ☞ 校舍与建筑 ☞ 教学仪器设备 ☞ 图书资料与信息化设施 ☞ 体育场馆与实施 5.2 主要办学条件达标学校比例 5.3 学校危房面积比例（小学、初中分城乡） 5.4 教学信息化建设水平 ☞ 校园网连通 ☞ 每百学生教学用计算机台数 ☞ 学生每周平均上机时数 5.5 教学业务费支出水平 ☞ 生均教育总支出、生均事业费支出、生均预算内拨款 ☞ 公用经费占事业性支出比例及其变动度

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要素层	监测指标
6. 教育经费	6.1 多渠道教育经费总投入、总支出及人均水平和增长率 6.2 经费来源构成及变动度 6.3 政府教育投入（两个比例：三个增长） 6.4 各级教育生均事业性经费支出及构成（小学、初中分城乡） 6.5 教育总经费与财政性经费在各级教育中分配的比例 6.6 各级教育基建投入（滚动监测）
7. 高校学科建设与科研活动	7.1 重点学科建设 ☞ 学科点 ☞ 学科分布 ☞ 培养博士生数 ☞ 专项投入 7.2 重点实验室建设 ☞ 个数 ☞ 研究人员数 ☞ 博士后流动站个数 ☞ 专项投入 ☞ 科研成果 7.3 高校科研活动 ☞ R&D 经费及人员数 ☞ 获奖 ☞ 发表论文专著数 ☞ 申请专利数 ☞ 高校高科技企业产值
8. 教育国际化	8.1 出国、来华留学生数 8.2 出国、来华任教和研究学术交流专家数 8.3 国内举办国际性学术会议次数、参加人数和交流论文数

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要素层	监测指标
9. 经济社会背景	<p>9.1 经济发展水平</p> <ul style="list-style-type: none">☞ GDP 总量增长率☞ 人均 GDP☞ 产业结构按产值和从业人员的构成☞ 城乡人均收入 <p>9.2 人口与社会发展</p> <ul style="list-style-type: none">☞ 人口总量、密度☞ 15-16 岁人口平均受教育年限☞ 城镇人口比重 <p>9.3 科技发展</p> <ul style="list-style-type: none">☞ 高新技术产业产值及其占生产总值比重☞ 每百万人口拥有科学家、工程师数☞ 全社会 R&D 投入及其占 GDP 比重

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I. Background, Purposes and Requirements

1. Background: challenge from practice

The medium and long-term educational plans at national and provincial level in China are generally developed every five years. As a whole, the implementation of the plan is generally satisfactory and has shown its positive role in promoting Chinese education development at all levels and of all types.

With the on-going reforms of China's social economy and educational system, educational planning has been challenged by development and reform of its own. On the one hand, the operational mechanism for planning applicable to the market system needs a further probe, which is in company with a lot of work; and on the other, the educational planning per se is expected to have further improvement.

Such phenomena have been often observed in our practice: some leaders do not concern any more about the plan as soon as it was formulated; the plan developers usually overwhelm with the routines; the administrative departments in charge of education are too often occupied by daily schedules, so little attention is given to enhancement of the planning work and professionals' expertise. What is more, less work was done to things emerging in plan delivery, which may actually help discover problems and induce rules.

In 1996, the Ministry of Education issued a set of indicators for monitoring the implementation of educational plans and embarked on monitoring work, which ensured a good progress of education in the country. In recent years, the Ministry of Education has issued documents *Annual report on Monitoring National Plan Implementation* and *General Monitoring Report on the 5-year Plan Delivery*. The western provinces of China, on the basis of their reality, have shown various initiatives done in educational planning and monitoring development. Where in some counties, pilot projects were conducted and generated good results. These initial steps made in monitoring process have gained attention from educational

administration at all levels and the society at large. However, it is still necessary for us to make the work better and reinforced.

2. Purpose: To explore a new mechanism for macro management

In the process to change the traditional centralized planning system to the market economy, a new mechanism accommodating the market system for educational planning management and operation should be established step by step. The market economic system has changed not only the environment in which the educational plan is developed but the complexity of factors and variables related to planning has increased, which drives us to explore and endeavor to develop and act upon a new operational mechanism applicable to the market system.

In terms of the emerging circumstances and problems in implementation, to monitor and form a quick response to and timely make analysis and judgment enables managerial departments of education to undertake macro management, regulation and coordination, and give directions accordingly. It also helps enhance independence, self-improvement in developing regional education plan, modify corresponding mechanism so as to ensure successful attainment of the general goals set in the educational plan.

3. Basic requirements for monitoring system

- *It should reflect applicability, coordination and sustainability in development of national and regional education.* In developing Chinese national and regional monitoring system for education planning, emphases should be placed on coordinative development in “total and sub-enrollment, education structure, teaching quality and institutional efficiency” at all levels and of all types, appropriate interactive relationships, such as capability to support education and demands generated by national and regional economic growth and social development.
- *It should function as dynamic analysis and pre-warning.* Monitoring indicators should be developed in line with the goals of the educational plan, and can function as a follow-up monitor for the planning outcomes and an alarm when implementation deviates from the planned goals and setback appears. It should be discriminative and responsive to the emerging problems.
- *It should accommodate with the trend of internationalizing education.* The system of monitoring indicators should allow for international exchanges and cooperation, and be constructed from open and international perspectives. It should favor international comparisons in educational development and exchanges, which will surely benefit us a lot. Therefore, the monitoring system and its indicators should reflect the degree of internationalizing education in our country.

- *It should be a system to be operated with employment of multi-approaches.* The monitoring system for educational plan is a managerial system enabling us to analyze, discriminate, monitor, give feedback and make adjustments. It needs to employ multi-approaches at different stages to bring their roles into play. In terms of effectiveness, we have experienced a monitoring process that mainly includes data collection according to the indicators followed by analysis, a professional team with high expertise and their guidance and participation in comprehensive analysis, judgment and evaluation, and an expedite channel that provides information and feedback. All this along with a dynamically adjustable mechanism, coordinated and effective operation will assure a better basis for the quality and efficiency of the monitoring system.

II. Developing a Monitoring Indicator System

The monitoring indicator system consists of four parts including comprehensive evaluation, factors and dimensions, monitoring indicators, and data collection and processing.

1. Comprehensive evaluation

Comprehensive evaluation refers to evaluation on the status quo in implementing the national and regional plans of education and the level of educational development in general. Not only the development level of educational elements is to be evaluated, but also the degree to which these elements are coordinated and congruent in mutual facilitation. How education, economy and society are coordinately developed will be evaluated too.

The monitoring system will function well when comprehensive evaluation is supported by quantitative and non-quantitative data accompanied with evaluation by the panel. Meanwhile, the monitoring system will facilitate analysis and adjustment of China's educational planning system to achieve continual improvement in quality and efficiency in educational planning and its operation.

2. Dimensions and monitoring indicators

The system includes indicators in 9 dimensions: education enrollment and school accessibility, education structure, quality and relevancy, faculty development, school facilities and equipment, education financing, academic program development and research in higher learning, education internationalization, economic growth and social development. The major monitoring indicators selected currently and primarily in each dimension are listed as follow (also see details in appendix).

Dimension 1: Enrollment and accessibility

The indicators include:

- ☞ New entrants to schools at all levels and of all types
- ☞ Total student enrollment
- ☞ Enrollment rate of the age cohort
- ☞ Achievements and progress in “2 B” (i.e. basically realized popularization of 9-year compulsory education and basically eliminated illiteracy in youth and adults in their prime of life at the end of the 20th century”)
- ☞ Overall size of educational training of adults and proportion of adults attending training of the year

Dimension 2: Education structure

In this dimension, indicators are:

- ☞ School location and distribution
- ☞ Education structure by level
- ☞ Type composition of education (i.e. ratio of vocational and technical education, ratio of vocational and general education in senior secondary division, ratio of four-year, short-cycle undergraduate education and tertiary vocational education)
- ☞ Academic programs by subject
- ☞ School administrative affiliation (i.e. size and ratio of public and non-public schools at all levels).

Dimension 3: Quality of education

The indicators are grouped by:

- ☞ On-schedule graduation rates at all levels
- ☞ Drop-out rate, rates of graduates entering education at an upper level
- ☞ Quality of instruction evaluated by the panel and public survey
- ☞ Initial employment rate of graduates
- ☞ Evaluation on graduates by society at large
- ☞ Test passing rate of the students at all levels
- ☞ Ratio of average class size and larger class size

Dimension 4: Faculty development

Indicators in this dimension are described as follows:

- ☞ Number of teachers allocated at all levels of education
- ☞ Rate of teachers who are qualified and certified
- ☞ The highest academic credentials of full-time teachers
- ☞ Professional title
- ☞ Teachers’ participation in training

- ☞ Teachers' morality and demeanor evaluated internally and externally

Dimension 5: School facilities and equipment

The indicators include:

- ☞ Total infrastructures allocated in education at all levels
- ☞ Amount averaged by number of students
- ☞ Amount updated or improved
- ☞ Proportion of schools that meet the primary conditions for running schools
- ☞ Proportion of schools with buildings at risk
- ☞ Construction of information technology
- ☞ Expenditure on teaching and learning

Dimension 6: Education financing

This dimension includes indicators such as:

- ☞ Educational funds input by the whole society
- ☞ Total expenditure per capita and its growth rate
- ☞ Funding sources and each share
- ☞ Government input ("2 percentages" and "3 increases", i.e. "by the end of the 20th century, national financing for education in GDP should have reached 4%, and at the end of the 8th five-year plan, educational expenditure in fiscal expenditure at all levels should have been up to 15%"; "an increase in budgetary appropriation by the central and local governments larger than the increase in recurrent fiscal revenue, a gradual increase in educational expenditure per student, and a gradual increase in teachers' salary and public funds per student.)
- ☞ Current expenditure per student by level and by source
- ☞ Percentage of total input by the society and fiscal input allocated at all levels of education
- ☞ Input in capital construction and infrastructures (to be monitored for consecutive years)

Dimension 7: Academic programs and research in higher education

The indicators include:

- ☞ Key academic program construction
- ☞ Key laboratories construction
- ☞ Input in and output of research in institutions of higher learning

Dimension 8: Internationalizing education

In this dimension, indicators are:

- ☞ Number of students going to study abroad
- ☞ Number of international students
- ☞ Number of faculty members who go abroad teaching, participating in

- research projects and academic exchanges
- ☞ Number of scholars who come to teach, conduct research projects and academic exchanges
- ☞ Times of international conference hosted
- ☞ Person times of faculty attending international conference abroad
- ☞ Number of faculty who participate and number of papers submitted
- ☞ International cooperation in running schools

Dimension 9: Economic and social context

Indicators included in this dimension are:

- ☞ Economic development (total GDP, GDP growth rate, GDP per capita, average income of urban and rural people, composition of industry)
- ☞ Population and society (population, population density, average educational attainment of 15-64 age cohort, degree of urbanization)
- ☞ Development of science and technology (high-tech industry and percentage taken up in GDP, number of scientists and engineers in 1 million of people, funds input in R&D by the whole society, and its percentage in GDP)

III. Preliminary Proposal for Monitoring System

1. A 3-level undertaking of the monitoring system

Considering imbalance existing in regional development in China and the regional capability to plan and monitor the overall educational development, the system for monitoring delivery of the educational plan will be undertaken at three levels: national, provincial and sampling spots for monitoring.

National level: In order to reinforce the macro management of development of the nation's education and provide directions for educational departments in charge in all regions accordingly, the Ministry of Education is responsible for the following:

- developing monitoring indicator system,
- unifying the caliber of indicators and collection requirements,
- designing and establishing network, manage operation of the monitoring system,
- gathering and analyzing the results of monitoring delivery of the national plan and the progress in regional implementation, and
- issuing a monitoring report.

Provincial level: The educational department in charge has responsibility for:

- local data collection on educational development,
- submission of statistic data to the Ministry of Education,
- issuance of a report on results based on monitoring implementation of the local plan of education, and
- recommendations for facilitation and adjustment.

Provinces, municipalities and autonomous regions are allowed to independently monitor implementation of the local plans of education according to their own needs and reality.

Sampling spots for monitoring: By monitoring implementation and surveying the grass roots of China's education system, spot selection aims to make in-depth analysis and judgment in terms of identifying the basic trend of development and new problems in macro and provincial levels. At the same time, it will provide us with a basis on which quality of education that can hardly be quantified can be evaluated and a policy system can therefore be constructed. Spots in basic education refer to counties. 30-50 spots, approximately taking up 1-2% of the administrative units at the county level, selected by stratified sampling from the central cities in eastern, central, and western parts of the country, ordinary areas, and remote and poor areas. Spots in higher education refer to colleges and universities. 30-50 spots, about 2-3% of the institutions in higher learning, selected by stratified sampling from big, central, medium and small-sized cities in eastern, central, and western parts of the country. The Ministry of Education and provincial department of education in charge will share the responsibilities. The former will give technical support including developing a monitoring program, organizing experts for consultation and evaluation while the latter will provide with necessary funds.

2. Operation of monitoring system

The monitoring system will be operated through the following steps:

- Establish a scientific and sensitive monitoring indicator system to profile development of the nation's educational undertaking and plan implementation.
- Collect and compute data. Preliminary results will be formed on the basis of statistics mainly from the Ministry of Education, combined with the results gained through multi-approaches including evaluation by the panel, public surveys and field investigations, etc.
- Set up a panel for evaluation. The Ministry of Education will organize experts for consultation to the indicator system and monitoring results as an important component of evaluation.
- Involve the whole society for evaluation and feedback to better promote education and perfect the system, including listen to opinions and suggestions from the employers and parents and all circles of the society regarding educational development, system operation and the monitoring

results.

- Disseminate results and advance measures for regulation and control. The Ministry of Education will issue a report on monitoring the delivery of the national plan of education on the basis of opinions from the panel and all circles of the society, give directions for future development of national and regional education. Measures for regulation and control will be advanced, ranging from forecasting alarms on problems mainly in quality of education and conditions for running schools and the regions with such problems, providing guidance to regulating related policies if necessary, and making mid-term adjustment in the content planned.

Monitoring Indicators for Implementing China's National Plan of Education

Comprehensive Evaluation	
<ul style="list-style-type: none"> ➤ It is to conduct a comprehensive evaluation on the status quo of implementing the national and regional plans of education and the level of educational development in general. ➤ To achieve the monitoring goals, comprehensive evaluation will be based on monitoring indicators and integrated with quantitative and non-quantitative data and evaluation by a panel. ➤ The monitoring system will facilitate to continually improve China's educational planning and heighten the levels of China's educational development. 	
Dimensions	Monitoring Indicators
<p>1. The state of art in development of educational size and popularization</p>	<ul style="list-style-type: none"> 1.1 New entrants, enrollments and changes at all levels and all types 1.2 Enrollment rates of age cohorts for elementary, junior and senior secondary schools and colleges 1.3 Illiteracy-eliminated population and illiteracy rate changes among cohorts of youth and in prime of life 1.4 Regional coverage and population coverage achieving nine-year compulsory education 1.5 Number of college students per 100,000 people 1.6 Overall size of educational training for adults and adults who attend training of the year

(continued)

Dimensions	Monitoring Indicators
2. Composition of education	<p>2.1 Composition of school distribution</p> <ul style="list-style-type: none">☞ Number of kindergartens, primary and secondary schools per 100,000 rural and urban people respectively☞ Number of institutions of high learning per 1000,000 people☞ Proportions of small and medium cities with institutions of high learning <p>2.2 Composition of education levels</p> <ul style="list-style-type: none">☞ Composition of new entrants and enrollments in junior and senior secondary schools and colleges☞ Composition of new entrants and enrollments of short-cycle, four-year and postgraduate education <p>2.3 Composition of types in education</p> <ul style="list-style-type: none">☞ Compositions of new entrants and enrollments of post and senior secondary vocational schools☞ Ratio of new entrants and enrollments of vocational and general education in senior secondary division☞ Ratio of four-year, short-cycle undergraduate education and vocational education in higher learning <p>2.4 Program composition</p> <ul style="list-style-type: none">☞ New entrants and enrollments by programs☞ Majors with fast growth and drop of new entrants of the year <p>2.5 Composition of the ownership in running schools</p> <ul style="list-style-type: none">☞ Size and proportions of public and non-public schools at all levels☞ The newly-increased numbers of non-public schools and students at all levels and corresponding percentage

(Continued)

Dimensions	Monitoring Indicators
3. Quality of education	3.1 On-schedule graduation rates and drop-out rates of primary and junior secondary school students 3.2 Rates of primary, junior and senior secondary school graduates entering upper level education 3.3 Initial employment rate of secondary vocational school and college graduates 3.4 Evaluation on all-level education quality by the society and panels 3.5 The employers' evaluation on college graduates; change of salaries and position of college graduates 3.6 Test passing rate of the students at all levels 3.7 Students' P.E. standard attainment 3.8 Ratio of average class size and larger class size
4. Allocation and development of teachers	4.1 Student-teacher ratio in all-level education (urban and rural primary and junior secondary education separately, and the same as follows) 4.2 Proportions of part-time and substitute teachers 4.3 Proportions of teachers who are qualified and certified 4.4 Highest academic credentials of full-time and newly recruited teachers 4.5 Ratio of intermediate and senior titles of teachers; Ratio of middle-aged and young teachers 4.6 Percentage of teachers' participation in training of the year; institutional development of teachers' participation in training 4.7 Teachers' morality and demeanor evaluated internally and externally

(continued)

Dimensions	Monitoring Indicators
5. Conditions for running schools	5.1 Total infrastructures allocated in education at all levels; amount averaged by the number of students; amount updated or improved <ul style="list-style-type: none">☞ School buildings☞ Teaching instruments and equipment☞ Books and reference materials; facilities for information technology☞ Sports fields, gymnasiums facilities 5.2 Percentage of schools that meet the primary conditions for running schools
	5.3 Percentage of schools with buildings at risk
	5.4 Construction of information technology <ul style="list-style-type: none">☞ Campus networking☞ Number of computers for instructional use per 100 students☞ Average hours of students using computers
	5.5 Operating expenditure for education <ul style="list-style-type: none">☞ Overall expenditure for education per capita; operating expenditure per capita; budgetary appropriation per capita☞ Percentage of public funds in operating expenditure and the corresponding change

(continued)

Dimensions	Monitoring Indicators
6. Educational financing	<p>6.1 Total input of educational funds raised by multi-channels, total expenditure, expenditure per capita and its growth rate</p> <p>6.2 Composition of funding source and its change</p> <p>6.3 Government input ("2 percentages" and "3 increases", i.e. "by the end of the 20th century, national financing for education in GDP should have reached 4%, and at the end of the 8th five-year plan, educational expenditure in fiscal expenditure at all levels should have been up to 15%"; "an increase in budgetary appropriation by the central and local governments larger than the increase in recurrent fiscal revenue, a gradual increase in educational expenditure per student, and a gradual increase in teachers' salary and public funds per student.)</p> <p>6.4 Operating expenditure in education per student at all levels and its composition (urban and rural primary and junior secondary separately)</p> <p>6.5 Percentage of total input, fiscal input allocated at all levels of education</p> <p>6.6 Input in capital construction and infrastructures at all levels of education (to be monitored for consecutive years)</p>

(continued)

Dimensions	Monitoring Indicators
<p>7. Academic program construction and research activity in higher education</p>	<p>7.1 Key academic program construction</p> <ul style="list-style-type: none"> ☞ Number of key programs ☞ Key program distribution ☞ Number of PhD conferred ☞ Input for key academic program construction <p>7.2 Key laboratories construction</p> <ul style="list-style-type: none"> ☞ Number of key laboratories ☞ Number of research staff ☞ Number of post-doctoral mobile station ☞ Input for key laboratory construction ☞ Research outcomes <p>7.3 Research activity</p> <ul style="list-style-type: none"> ☞ Funds and number of persons for R&D ☞ Awards ☞ Number of paper and monograph published ☞ Number of application for patent ☞ Production value of hi-tech companies in higher learning

(continued)

Dimensions	Monitoring Indicator
<p>8. Internationalizing education</p>	<p>8.1 Number of students going to study abroad and international students</p> <p>8.2 Number of scholars who go abroad and who come to teach, participate in research projects and academic exchanges</p> <p>8.3 Times of international conference hosted, person times of faculty attendances and number of papers submitted</p>
<p>9. Economic and social background</p>	<p>9.1 Economic development level</p> <ul style="list-style-type: none"> ☞ Total GDP and growth rate ☞ GDP per capita ☞ Composition of industry by production value and employment ☞ Average income of urban and rural people <p>9.2 Population and social development</p> <ul style="list-style-type: none"> ☞ Population and population density ☞ Average educational attainment of 15-16 age group (years of education received) ☞ Ratio of urban and rural population <p>9.3 Development of science and technology</p> <ul style="list-style-type: none"> ☞ Production value of high-tech industry and its percentage in GDP ☞ Number of scientists and engineers per one million of people ☞ Funds for R&D by the whole society, and its percentage in GDP