

## THE PROCESS AND EFFECTS OF STRATEGIC CHANGE DURING THE TRANSFORMATIVE DEVELOPMENT OF CHINA UNIVERSITY OF GEOSCIENCES AMID MARKETIZATION

### 市场化过程中的中国地质大学转型发展的战略变革历程与成效

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#### Abstract:

The reform and opening up, implemented in China since the 1970s, has prompted the deepening of marketization. Profound changes have taken place regarding the relationship among China University of Geosciences (CUG), government competent authorities and the market, amid deepening marketization. Faced with evolving internal and external environment, by eyeing on optimizing discipline structure and upgrading discipline level, CUG has launched strategic change. And thus it has successfully moved towards the second development curve, transforming itself from a single-discipline geological college into a multidisciplinary university with geological discipline as its dominant feature and a university of multidisciplinary coordinated development.

#### 摘要:

20世纪70年代, 中国实行了改革开放, 市场化进程不断深入。中国地质大学(CUG)与行业、政府主管部门、市场之间的关系发生了深刻变化。在面对内外部环境的变化时, 学校通过战略变革, 围绕学科结构优化与学科水平提升, 实现了学校学科竞争力水平的提高, 成功迈向第二发展曲线, 由单科性地质学院转向了以地质学科为优势特色、多学科协调发展的多科性大学。

**Keywords: the Second Curve; Marketization; Transformation; Strategic change**

**关键词: 第二曲线; 市场化; 大学转型; 战略变革**

Changes are an integral part of organizational life. The occurrence and the continual management of Organizational changes could impose crucial and even decisive impacts on the survival and development of the organization. As a subsystem of the social system, universities are also undergoing a series of changes and development to ensure their contribution and social relevance. Strategic Changes in universities are distinctive of a host of complexities, owing to the loosely coupled organizational structure, unique academic culture, differences among stakeholders and so on. Therefore, analysis of the execution and management of strategic changes in universities could be of great significance. In-depth research on the connotation, elements, aim, function and mode of university strategic changes have been conducted by previous scholars with many theoretical insights generated. Whereas, with strategic changes either kicking into gear or being in full swing in various universities in the globe, there has been a dearth of literature examining those taking place in Chinese universities against the context of deepened marketization in China.

This study takes Chinese industry-featured universities as the research object, with Chinese Universities of Geosciences (CUG) selected as the case of focus. On one hand, the birth of CUG represents a timely response to demands of national economic development, and cultivating talents in the geological exploration industry is of both urgency and great value. Therefore, CUG is distinctive of industry-featured demands since its inception. On the other, through effective strategic changes, CUG has successfully transformed itself from a single-discipline geological university to a multidisciplinary one with geological disciplines as its dominant characteristics and multi-disciplinary coordinated development. This study conducts a detailed analysis of the internal and external environment faced by CUG at various stages of transformative development, into objectives identified and main measures adopted for strategic change. By doing that, a summary of the experience and effects along the way of CUG's transformative development is presented, in an effort to enrich the theoretical research on university strategic change and generate a valuable reference for strategic changes in other universities.

变革是组织生活中不可或缺的一部分。组织变革方式以及对变革的管理, 将影响甚至决定组织的存续与发展。大学也在经历一系列变革与发展, 以保证其贡献和社会相关性。但大学的变革面临诸多特殊性与复杂性, 例如其松散耦合的组织结构, 独特的学术文化, 以及利益相关者间的分歧等等。因此, 对大学变革的推进与管理展开研究至关重要。在理论上, 有许多学者从学校变革的内涵、要素、目的、作用、实现方式等进行了深入研究。在实践中, 世界上许多国家的大学也都采取了各式的变革方式, 它们或是正在变革或已实现发展。然而, 对于中国情境下的大学战略变革研究目前较少。在中国市场化进程不断深入的情况下, 对中国大学的战略变革进行深入研究具有重要意义。

本研究以中国行业特色大学为研究对象。具体而言, 本研究选取 CUG 作为本研究的案例, 考虑到 CUG 的诞生是源于新中国的经济建设对地质勘探行业人才的需求, 因此学校自建校之初就具有浓厚的行业特色大学特征。另一方面也考虑到学校成功实现了由单科性地质院校向以地质学科为优势特色、多学科协调发展的多科性大学的转型。本研究通过详细分析 CUG 战略变革各历史阶段面临的内外环境, 所确立的战略变革目标, 以及主要的战略变革举措, 总结其战略变革经验成效, 旨在丰富对大学战略变革的理论研究, 并为其他学校转型发展中的战略变革提供一定参考借鉴。

## 1. Analysis of 4 Stages of CUG's Transformative Development

CUG, founded in 1952, used to be an industry-featured university under the administration of the Ministry of Land and Resources before the reform of the higher education system. In order to meet the urgent demands for large-scale economic construction of the People's Republic of China, the newly-established CUG from the very beginning, a single-discipline talent cultivation system with geological-exploration-related subjects as the core was formed. It received support in students internships and scientific research from enterprises in the geological industry under the administration of the ministry of geology and mineralogy. The employment of graduates were all allocated by the Ministry of Geology and Mineral Resources. It was known as one of the national key universities wielding high-level impacts in the field of geological exploration research.

In 1978, China decided to carry out reform and opening up. In the process of the gradual government deregulation and marketization of universities, through strategic change, CUG successfully realized transforming itself from being a single-discipline geological university with geological disciplines as the main feature to a multidisciplinary one with integrated development of multiple disciplines. It has undergone a 4-stage process of transformative development:

### 1.1 The Recovery Development of the 1st Curve Period of the CUG:1978-1985

The first stage of CUG's transformative development was under the influence of evolving external environment. The end of the Cultural Revolution in 1976 and the shift of national focus to socialist modernization in 1978 created a stable external environment for CUG's recovery development. In addition, the resumption of the enrollment system of higher education in 1977, which had been suspended for 10 years, and the growing demand for high-level professionals have brought new development opportunities to the CUG.

In the face of the new situation, CUG identified its objectives of strategic change timely. It actively launched programs of rebuild and restoration. By taking teaching as the core, integrating teaching and scientific research, CUG spared no efforts in finding solutions for teaching reform and improving the quality of education. After the optimization of school-running conditions, in 1983, CUG put forward the strategic goal of growing itself into a geology-distinctive socialist university of Chinese characteristics that is "modern, open and international", with prestige both at home and abroad.

CUG adopted a series of measures for the launch of strategic changes. First, in terms of discipline structure, in addition to restoring original majors of geosciences, science and engineering, CUG successively built 3 departments, including the department of computer, economic management engineering and basic courses. And it newly set up 8 specialities of strong market demand. In terms of discipline level improvement, reforms were carried out in terms of personnel training, scientific research and international cooperation. To be more specific, faculty and students participated in the pilot program that integrates teaching, research and production. Meanwhile, the graduate education system was optimized and the graduate enrollment was gradually scaled up. With respect to international cooperation, the scope of international exchanges and cooperation was expanded, establishing ties with various countries and regions such as the United Kingdom, the United States, the Federal Republic of Germany and other countries and regions.

Through stable development, CUG realized an initial transformation as a single-discipline university of science and technology, with discipline levels restored and promoted. However, during the early stage of adapting itself to the market-oriented economy, CUG failed to gain insights into the market economy. There, the strategic change of CUG at this stage could not fully meet the demands of market-oriented economy development.

### 1.2 The Budding Stage of the 2nd Curve of CUG: 1985-2000

With the deepening of the marketization of China's reform and opening up, by considering series of internal and external factors, CUG initiated its strategic change from the original single-discipline university to the multidisciplinary university with its discipline feature in earth sciences, of integrated development of a string of disciplines.

During the budding stage of the 2nd Curve of CUG, its strategic change was subject to a series of new external and internal factors. Firstly, in terms of the external environment, the newly emerged market-oriented mechanism was a challenge for CUG. On one hand, the government gradually granted universities greater autonomy, with the sources of funding for running schools expanded. At the same time, the system of graduates' independent job-seeking was gradually established by the government. Universities began to participate in the competition of enrollment market and employment market; on the other hand, the market demand for geological talents was getting saturated. A narrow discipline structure could hardly meet new demands in the geological industry for talents equipped with extensive knowledge and comprehensive capacity.

## 1. 中国地质大学转型发展的四个阶段分析

中国地质大学始建于1952年，是一所在高等教育体制改革前由中国国土资源部管理的行业特色型大学。建校之初，为了满足大规模经济建设的迫切需求，学校形成了以地质勘探类学科专业为主的单科性人才培养体系。学生实习和科学研究均由国家地质矿产部主管的、地质行业单位给予支持。毕业生由地质矿产部统一分配，是一所在国内地质勘探研究领域具有高水平影响力的全国重点高校。

1978年，中国决定实行改革开放。在政府逐步放松大学管制与市场化的过程中，中国地质大学通过战略变革成功实现了由单科性地质院校向以地质学科为优势特色、多学科协调发展的多科性大学的转型。其变革历程大致经历了四个阶段。

### 1.1 中国地质大学的第一曲线恢复性发展阶段：1978-1985年

第一阶段CUG的战略变革受到外部环境变化的重要影响。1976年文化大革命的结束和1978年国家工作重点转移到社会主义现代化建设上的举措，为学校恢复发展创造了稳定的外部环境。1977年中断十年的高等教育招生制度的恢复和对专业性高水平人才需求的增多也给学校带来了新机遇。

面临变化的外部环境，学校及时确立了战略变革目标。积极开始了恢复办学工作，以教学为主，将教学和科研紧密结合，着重解决教学改革和提高教育质量的问题。在办学条件大大改善后，1983年，学校提出了建设成在国内外享有一定声誉的“现代型、开放型、国际型”的中国式社会主义地质学府的战略目标。

中国地质大学在此阶段采取了系列有效的变革措施：在学科结构方面，除了恢复原有的以地学理工科为主的专业外，还相继新建了计算机、经济管理工程、基础课部3个系（部），增设了8个市场需求旺盛的专业；在学科水平提升方面，积极围绕人才培养、科学研究和国际合作进行改革。例如，组织师生开展教学、科研、生产三结合联合体试点工作；完善研究生教育体系，逐步扩大研究生招生规模；将国际交流合作范围拓展至英国、美国、联邦德国等。

经过稳定发展，学校初步改变了单一地质类理工科学院的局面，恢复并提升了学校的学科水平。然而，在适应市场经济发展的初期，CUG对市场经济的特征缺乏深刻洞察，学校战略变革措施未能有效满足市场经济发展的需求。

### 1.2 中国地质大学的第二曲线萌芽阶段：1985-2000年

伴随改革开放的市场化进程不断加深，学校结合自身发展实际情况，开始了战略变革，即由单科性高校向以地质学科为优势特色、多学科协调发展的多科性大学转型发展。

第二曲线萌芽阶段中，CUG战略变革受到若干内外部因素影响。第一，刚刚兴起的市场化外部环境带给学校巨大的冲击。一方面，国家逐步赋予大学更多的办学自主权，大学扩大了办学经费来源渠道。同时，国家逐步建立毕业生自主择业制度。大学开始参与招生、就业市场的竞争；另一方面，市场对于地质行业人才的需求趋于饱和。专业过细的学生培养已不适应地质工作对知识面较宽、综合能力强的人才需求。

In terms of internal difficulties, first of all, CUG's school-running concepts were distinctive of the mindset of planning economy, and therefore there was a lack of understanding of how to build a high-level university in the context of marketization; second, in lack of competitive human resources, CUG was confronted with problems of aging faculty team and lack of attraction for talents. Third, the discipline structure of CUG failed to meet the demands of social-economic development demands, leading to difficulties in finding employment among high-level geological talents, a goal that CUG has been committed to.

In 1987, the strategic goal of CUG was identified, which is to build a comprehensive university of geosciences catering to the overall social development, as well as a modern, open and international university in earth sciences. In 1991, the 2-step university development plan for the next 10 years was proposed by the president. (See Table 1).

第二, 学校遭遇内部发展困境。一是办学思想仍是计划经济思想占主导地位, 缺乏对在市场化环境中建设高水平大学规律的了解。二是学校缺乏核心人力资源, 存在师资队伍老龄、人才断层的问题。三是学校的学科专业结构与当时的社会发展需求不相适应, 学校一直以来致力于培养的高水平地质科技人才难以实现良好就业。面临新的内外环境, 1987年, CUG明确了战略目标: 建成一所面向全社会的、综合性的地质大学; 一所现代型、开放型和国际型的地质大学。1991年, 再次提出学校未来十年分为两步走的发展规划(见表1)。

**TABLE 1 Strategic Goals of CUG's Development Plan 1991-2000 | 中国地质大学1991-2000年发展规划战略目标**

1st Step: 1991-1995. Deepening reform, optimizing structure, enhancing overall capacity, improving school running model with geoscience-oriented science and engineering disciplines as the main part, and coordinated development of science, engineering, culture and management, so as to pave the way for next 5-year development:

第一步: 1991-1995年, 深化改革、优化结构、增强实力, 完善以地质类理工科为主, 兼有文管学科的综合性地质大学的办学模式, 为后五年继续发展打好基础;

2nd Step: 1995-2000. Striving for appropriate disciplinary structure, optimized conditions, improved capacities and coordinated development among various departments, and enhanced comprehensive advantages, achieving a big step towards a modern open and international comprehensive university.

第二步: 1995-2000年, 学校结构合理, 条件优化, 实力增强, 水平提高, 各方面关系协调理顺, 综合优势更为突出, 在建设现代型、开放型、国际型综合性地质大学方面大大迈进一步。

Under the guidance of the 2-step strategic goal, one on hand, the advantages of key geological disciplines were further consolidated. Applied disciplines were vigorously developed, new disciplines were established and discipline structure was optimized. On the other hand, reforms were carried out in aspects of faculty team, talents training, scientific research, internal governance and so on, striving to improve the level of discipline construction and governance ability of CUG. For example, the faculty structure was optimized by providing funds for in-service teachers to obtain master and PhD degrees, sending teachers to go abroad for further studies, making exceptional decisions to evaluate and grant senior positions to outstanding young and middle-aged teachers, and attracting high-level talents according to the needs of discipline construction and professional adjustment. Also, it stressed both undergraduate and graduate students, with multiple education levels established, including night university, correspondence education and so on. And practice-based teaching was strengthened. Moreover, the transformation of scientific and technological achievements was actively promoted and service provision to the society was strengthened. On top of that, institutional reform was carried out by advocating the principle of simplification and efficiency.

After undergoing the initial phase of strategic change, CUG has set up a discipline and speciality system with geoscience as the main feature, science and engineering discipline as the backbone and coordinated development among multiple disciplines of science, engineering, culture and management. The talent training mode is more diversified, and the scientific research and social services further meet the needs of social development.

At the same time, there existed some problems at this stage. Firstly, under the constraints of internal and external conditions, the proportion of doctoral teachers in CUG teachers was low; and the proportion of introduced teachers was low, with most of the faculties being CUG graduates. In addition, due to the limited school running conditions at that time, the adjustment of discipline structure was relatively slow, and there was a lack of investment in developing new disciplines and majors.

### 1.3 The Second Curve Development Stage of CUG: 2001-2018

Entering the 21st century, China has experienced intensified marketization. In 2000, CUG has become one of the universities directly under the Ministry of Education. In 2006, the Ministry of Education and the Ministry of Land and Resources entered into a collaborative agreement on jointly promoting the development of CUG, with new chapters of opportunities and challenges opened up in its future prospect.

At this stage, the internal and external influencing factors are stated as follows, firstly, the increasing autonomy of universities and the deepening of market-oriented reform have intensified the competition. The Outline of National Medium-and-Long Term Education Reform and Development Plan (2010-2020) (2010) and the Work Plan for Streamlining Administration, Delegating Power and Improving Regulation while Transforming Government Functions(2015) and other documents have been successively issued, marking continuous government efforts in clarifying and enhancing the autonomy of universities. This meant that other colleges and universities could set up geological specialities, which gave rise to ever more fierce competition amid universities in China. Besides, the deepened market-oriented reform has triggered ever more fierce competition in the recruitment market, employment market and high-level faculty introduction for universities in China.

在两步走的战略目标指导下, CUG一方面进一步巩固和提高地质类重点学科的优势, 大力发展应用学科, 充实和完善新建学科, 优化学科结构。另一方面, 积极在师资队伍、人才培养、科学研究、内部治理等方面进行改革, 着力提高学校学科建设水平和治理能力。例如, 通过资助在职教师攻读硕士、博士学位, 破格评审优秀中青年教师高级职务等举措, 优化师资结构; 本科生、研究生培养并重, 兼顾夜大、函授等多种教育层次, 强化实践教学; 积极推进科技成果转化, 强化科研服务社会; 按照精简高效的原则进行机构改革。

经过初步的战略变革, 学校基本形成以地学为主要特色、理工文管相结合的学科专业体系。人才培养模式呈现多元化趋势, 科学研究与社会服务进一步对接社会发展需求。

与此同时, 该发展阶段也存在一定问题。首先, 在内外条件的制约下, CUG师资队伍中博士学历师资比重较低, 学历结构有待优化; 且引进师资比重较低, 多为本校师资。另外, 由于当时办学条件有限, 学科结构调整较为缓慢, 新专业建设投入不足。

### 1.3 中国地质大学的第二曲线发展阶段: 2001-2018年

进入21世纪, 中国的市场化进程加剧。2000年, 学校成为教育部直属高校之一。2006年, 学校改为由教育部和国土资源部共建, 二者共同支持学校的发展。学校再次面临新的发展机遇与挑战。

在此阶段, CUG推进变革过程中的内外部影响因素包括: 第一, 高校办学自主权不断增加与市场化改革的不断深入使竞争加剧。政府相继出台了《国家中长期教育改革和发展规划纲要(2010-2020)》(2010)和《2015年推进简政放权放管结合转变政府职能工作方案》等(2015), 高校的办学自主权不断扩大。这意味着其他高校都可以开办地质专业, 学校的同行竞争环境更为激烈。另外, 市场化改革的不断深入使高校的招生市场、就业市场和高水平教师的引进竞争日益激烈。

Second, the rapid popularization of higher education has brought opportunities and challenges to university development. Universities could get more tuition income and increase funding through enrollment. The expansion of the scale of students would drive the increase of specialities, which would then bring new growth drivers to the construction of disciplines and specialities. On the other hand, the diversified educational needs required universities to provide necessary conditions for school running and cultivate higher-quality talents.

Third, clear school-running requirements were put forward by the government, which is education quality enhancement and running a university that satisfies all. Since 2001, China has issued a series of documents to improve the quality of higher education, such as "Undergraduate Teaching Quality and Teaching Reform Project in Universities" (2011) and so on. At the same time, the government promulgated a series of professional standards and evaluation standards, which put forward clear and accurate requirements for school running, with great pressure felt and reform impetus unleashed among universities.

Faced with the new situation and new requirements, CUG appropriately identified its long-term mid-term and immediate goal for strategic change. In 2004, CUG initially identified its phased goal as "building a First-Class University in earth sciences with coordinated multidisciplinary development" and the long-term goal of "building a world-class university in geosciences"; in 2011, it further refined the goal into a "three-step" development strategy. The 1st-step (2020) is to achieve the phased strategic goal of basically growing into a First-Class University in earth sciences as well as a high-level university of coordinated multidisciplinary development. And the 2nd-step (2021-2030) is to become a well-known research university at home and abroad. And its 3rd-step (2031-2052) is to basically realize the long-term strategic goal of developing itself into a world-class university in the field of geosciences.

In 2015, further elaboration was made in its phased goals and tasks of the "three-step" development strategy, and the main measures adopted were as follows. Firstly, it strengthened the organization and leadership of discipline construction and built a dynamic layered and classified management system. As for the traditional advantageous disciplines of geosciences, CUG has been giving key financial support to encourage them to pursue expansive growth and strengthen the discipline advantages by aiming at the frontier of the discipline. With respect to non-geological disciplines, the strategic planning groups for fostering characteristic engineering and characteristic liberal arts development were established successively, by eyeing the national strategic demands and the industry and regional development. Researches on internal and external disciplines were actively carried out so as to improve the construction level of engineering, liberal arts and basic disciplines.

Moreover, it further clarified the ideas and measures for each discipline and speciality construction. Under the guidance of the development strategic objectives of CUG, by 2014, the discipline construction concept of reinforcing characteristics, entering into the mainstream, striving for transformation, and of building a mutually supportive and coordinated development disciplinary ecosystem has been formed. The "five-in-one" discipline construction mode of coordinating talent team construction, discipline research, platform construction, talent training and international cooperation and exchange has been established. Under the guidance of the above general construction ideas, five-year development plans of each discipline and speciality were formulated, with construction measures refined.

Besides, CUG introduced a competition mechanism and optimize discipline structure. In implementing the three-step development strategy, CUG prioritized tasks of urgency and significance by carrying out discipline self-evaluation in 2013. Disciplines were either suspended or restructured based on evaluation results. And efforts were made to optimize discipline deployment and establish a new discipline construction and management mechanism featured with the integration of competitive discipline evaluation and the increase of both input and rewards, in the pursuit of higher quality in discipline and professional construction.

Fourthly, CUG implemented the strategy of strengthening the university with talents and university internationalization and strived to improve the faculty team level. CUG began to vigorously implement the strategy of strengthening the university with talents in 2009. At the same time, the faculty competition mechanism was introduced, intensifying the classified evaluation and performance management of faculties, optimizing the ability-and-contribution-oriented scientific research evaluation mechanism. Moreover, the salary level of faculties was raised several times. Faculties were also encouraged to study abroad, striving to enhance the internationalization level of faculties. In 2012, International University Consortium in Earth Sciences (IUCES) was founded. The setting up of such a long-term, sustainable and stable cooperation mechanism promoted joint sci-technical research on major issues in the field of geosciences, and established a joint training mechanism for students, further expanding the international vision of collaborative innovation among universities.

Fifthly, CUG Promoted the rule of law and improve the governance structure. 2015 witnessed the release of The Constitution of CUG for the first time. And CUG implemented the governance structure featured with leadership from the Party Committee, university affairs governance by the President, academic affairs governance by professors and implementing democratic participation. And rules and regulations of CUG were revised and perfected under the guidance of the constitution.

第二, 迅速推进的高等教育大众化给学校带来了发展机遇与挑战。学校可以通过招生获得更多的学费收入。学生规模的扩大也会促使专业增加, 从而给学校的学科专业建设带来新的增长点。但同时, 多样化的教育需求要求学校提供必要的办学条件, 培养更高质量的人才。

第三, 提高教育教学质量、办人民满意的大学给学校提出了明确的要求和改进的方向。自2001年以来, 中国政府围绕提升高等教育质量出台了系列文件, 实施了“高等学校本科教学质量与教学改革工程”(2011)。政府也主导颁布了一系列专业标准和评价标准, 对学校办学提出了明确、精确要求, 给学校带来了巨大的压力和改革动力。

面对新环境与新要求, CUG适时确立了长期、中期与近期的发展目标。2004年, 学校初步明确了“建设地球科学一流、多学科协调发展的高水平大学”阶段性办学目标和“建设地球科学领域世界一流大学”长远办学目标。2011年, 进一步细化为“三步走”发展战略目标: 第一步, 到2020年, 基本建成地球科学一流、多学科协调发展的高水平大学; 第二步, 到2030年, 基本建成国内外知名的研究型大学; 第三步, 到2052年(建校100周年), 基本实现地球科学领域世界一流大学的长远战略目标。2015年, CUG进一步深化“三步走”发展战略阶段目标与任务, 主要战略举措如下: 首先, 加强学科建设的组织领导, 构建多层次动态管理体系。对于地质科学类传统优势学科, 学校一直给予资金重点支持, 鼓励其瞄准学科前沿进行拓展, 强化学科优势。对于非地质类学科, 学校聚焦国家战略需求, 围绕行业和区域发展, 相继成立了特色工科和特色文科发展战略规划小组, 积极开展校内外学科调研, 相互促进, 以提升工科、文科和基础学科的建设水平。其次, 进一步明确各学科专业建设思路与举措。2014年, 学校形成了强特色、入主流、某跨越, 建设相互支撑、协调发展的学科生态系统学科建设理念, 统筹人才队伍建设、学科研究、平台建设、人才培养和国际合作与交流“五位一体”的学科建设模式。各学科专业在上述总体建设思路的指导下, 制定各学科专业的五年发展规划, 细化建设举措。另外, 引入竞争机制, 优化学科结构。为了实现在三步走发展战略, 学校坚持有所为、有所不为的原则, 于2013年开展学科自评工作, 并根据评估结果对学科进行动态调整。形成竞争性学科评价与投入激励相结合的建设管理新机制, 着力提高学科专业的建设质量。

第四, 实施人才强校战略和国际化战略, 着力提高师资队伍水平。2009年, 学校开始大力实施人才强校战略, 加大国内外人才的引进力度, 同时引入教师竞争机制, 强化对教师队伍的分类评价和绩效管理, 完善以能力和贡献为导向的科研评价机制, 并多次提高教师待遇, 积极鼓励教师出国留学, 着力提升教师国际化水平。2012年, 学校发起成立地球科学国际大学联盟(IUCES), 通过构建长期、持续、稳定的合作机制, 推动开展有关地球科学重大问题的联合科技攻关, 建立联合培养学生机制, 进一步拓展了学校开展协同创新的国际视野。

第五, 推进依法治校, 完善治理结构。2015年, 学校首次发布《中国地质大学(武汉)章程》, 健全和规范了党委领导、校长负责、教授治学、民主管理、社会参与的治理结构, 并以《章程》为指引, 修改完善学校各项规章制度。

Sixthly, CUG built a new campus and broke new grounds in optimizing school running conditions. In order to support CUG's transformative development, it started to build a new campus in 2011 and the construction was completed in 2019. The new campus covers a construction area of 573,400 square meters, accommodating more than 10,000 students from 5 colleges and 2 national scientific research platforms, with complete teaching, scientific research and social service functions and living conditions available. The construction and operation of the new campus effectively support the transformative development and improvement in the innovation ability of CUG.

After nearly 18 years of reform and development, 2018 witnessed CUG's achieving of its first goal ahead of schedule, meaning that its discipline ecosystem, featured with traditionally outstanding advantageous disciplines and mutually supportive multi-disciplines, has preliminarily taken shape, with its core competitiveness continuously and effectively enhanced. But there existed problems that couldn't be ignored in this process. The strategic change at that stage was less than desirable due to an inadequate understanding of the laws of university running, with a string of new disciplines and specialities being established through fragmented input of resources. However, in 2013, CUG's readjustment of discipline construction effectively prevented the disorderly expansion of disciplines to a certain extent.

#### 1.4 The Second Curve Growth Stage of CUG: from 2018 to Now

In 2018, CUG evolved into the stage of fulfilling its second-step development goal ahead of schedule. At this stage, new changes at home and abroad brought new opportunities and challenges to its prospect of development. First, the high-quality-oriented development in China generated high demand for innovative and outstanding talents. Thus, it is vital for Chinese universities to play a fundamental and core role in this process of development so as to realize their lofty historical mission. Second, for contemporary Chinese universities, serving the development strategy of national ecological civilization construction and seeking the harmonious coexistence of mankind and nature represent their responsibility of the time and value pursuit. Third, the competition among universities has been intensified as a result of the "Double First-Class" construction program implemented by the Chinese government and the gradually perfected market economic system. It is a strategic measure for Chinese universities to promote the reform of their education mode and governance system to adapt to the competitive landscape. Fourth, the accelerated evolution of a new round of sci-tech revolution and industrial change prompt universities to think about how to embed new technologies into the research of earth science, and seeking a new role of leading the development of the industry instead of supporting the development of the industry.

In such a context, CUG further refined its 3-step development goals. After 21 months of in-depth research, extensive discussion, brainstorming, consensus building and collective decision-making, the Strategic Plan of Building a World-renowned Research University in Earth Sciences a Beautiful China & a Habitable Earth: Towards 2030 was formulated and released by the end of 2019. Taking "building a beautiful China and a habitable earth" as the strategic theme of its future reform and development not only reflects CUG's advantages in earth sciences but also reflects its value pursuit of "promoting the harmonious coexistence of mankind and nature". The plan specified the goal of its development in the next 10 years: to build an internationally well-known research university in the field of Earth Sciences by 2030. The main indicators of running the university will be up to or be close to the level of world-renowned research universities. And earth sciences will be positioned at the forefront in the world, with various disciplines competing to improve quality and reaching the First-Class range. Moreover, a competitive and influential faculty team is to be organized. And it is to become a university with an outstanding education, scientific researches, culture and management, entering the rank of "world-class university" as a whole.

The plan further specified 4 action principles, 5 strategic priorities and a strategic guarantee, presenting the blueprint for the high-quality development of the university in the next decade, providing a reform roadmap in aspects of talent, philosophy, technology and methodologies. What's more, it provides strategic thought guidance for CUG's organizations at all levels, disciplines, specialities and staff. At present, the 14th Five-Year Development Plan of CUG is being further formulated under the guidance of the overall plan for deeper comprehensive reform and high-quality development of CUG.

#### 2. Achievements of Strategic Change amid CUG's Transformation Development

Through more than 40 years of transformative development, 3 major trends of sound development are displayed: its vision has been shifted from being domestic-oriented to outward-looking, and the awareness of competition has been greatly enhanced among all faculties. Second, the focus of constructing disciplines and specialities has been shifted from increasing the number of degree programs and expanding student enrollment scale to striving for connotative construction and high-quality development. Third, the goal of development level has been transformed from emphasizing the output index of quantity to highlighting high-level faculties and improving education and teaching quality. The specific fruits of the strategic change are as follows:

第六,建设新校区,破解办学条件短缺等。为了办学条件能够支持转型发展的需要,2011年学校着手建设新校区,2019年竣工。新校区总建筑面积57.34万平方米,能容纳5个学院和2个国家科研平台等机构、10000余名学生入住,具备完整的教学、科研和社会服务功能和生活条件,有力保障了学校的转型发展。

经过近18年的改革发展,学校于2018年提前实现了第一步的办学目标,这意味着学校注重传统优势学科突出、相互支撑的学科生态系统初步形成,核心竞争力持续增强。然而,在此过程中也存在不容忽视的问题,由于对办学规律缺乏深刻了解,新增了一批学科与专业,资源投入较为分散,制约了战略转型发展。不过,在2013年CUG对于学科建设的反思与调整在一定程度上遏制了学科的无序扩张。

#### 1.4 中国地质大学的第二曲线成长阶段:2018年至今

2018年,学校提前进入了第二步发展目标建设阶段。国内外发展形势的新变化给学校带来了新的机遇与挑战:第一,中国的高质量经济发展对于创新和卓越人才的渴望与以往相比更强烈。中国大学必须能在这一发展进程中发挥基础和核心作用。第二,服务国家生态文明建设发展战略、谋求人类与自然和谐共生是当代中国大学的时代责任与价值追求。第三,中国政府实施的“双一流”建设项目和日趋完善的市场经济体制加剧了大学间的竞争。中国大学推动其教育模式与治理体系变革是适应竞争的战略举措。第四,新一轮科技革命和产业变革的加速演进使学校不得不思考如何将新技术嵌入到地球科学领域的研究中去,由支撑服务行业发展转向引领行业发展。

在此背景下,CUG进一步细化了三步走发展目标的内容。历经21个月的深入调研、广泛讨论、集思广益、凝聚共识、集体决策,于2019年底形成了《美丽中国宜居地球:迈向2030——地球科学领域国际知名研究型大学建设战略规划》。《规划》具有鲜明的战略主题。将“建设美丽中国、宜居地球”作为学校未来改革发展的战略主题,既体现出学校地球科学特色优势,又体现出学校“促进人与自然和谐共生”的价值追求。《规划》明确了学校未来十年的奋斗目标:到2030年,建成地球科学领域国际知名研究型大学。主要办学指标达到或接近国际知名研究型大学水平;地球科学位居世界前列,各学科竞进提质、争创一流;汇聚具有竞争力和影响力的师资队伍;成为一所教育卓越、学术卓越、文化卓越、管理卓越的大学,整体进入“世界一流大学”建设行列。《规划》进一步构建了4项行动原则、5项战略重点与战略保障措施,为学校未来十年高质量发展勾勒了蓝图,为“建设美丽中国、宜居地球”提供人才、思想、技术和方法支持明确了改革路线图,为学校各级机构、各个学科专业和教职工提供了战略思想引领。目前,学校在总体规划之下正在进一步编制十四五发展规划,以此推动学校更深化的综合改革与高质量发展。

#### 2. 中国地质大学的战略变革成效

通过40多年的持续变革,学校呈现出三个良好的发展态势:一是发展视野已从国内转向国际,竞争意识已在全体教师中大为增强;二是学科专业建设已从争取学位点数量、扩大招生规模等外延拓展转向内涵建设、高质量发展;三是发展水平目标已从强调数量的产出转向强调高水平师资队伍建设与教育教学质量提高。具体变革成效表现在以下方面:

The discipline structure of CUG has transformed from previously being geology-oriented single-discipline to one of the multiple disciplines coordinated development earth science as its main feature. Before 1985, disciplines and specialties were mainly limited in geology, with only 4 first-level doctoral programs and 5 first-level master programs, judged by current classification standards. After 35 years of development, through scale expansion and adjustment, it has 16 first-level doctoral programs (including 4 doctoral programs in Humanities and Social Sciences), 34 first-level master programs covering 8 categories of science, engineering, economics, management, education, law, literature and art, 15 post-doctoral mobile stations, and 10 professional master degrees of engineering, MBA, MPA and so forth. The number of students has increased from 4,340 in September 1985 (including 515 graduate students and 54 doctoral students) to 30,239 by the end of 2020 (including 18,080 undergraduate students, 9,302 master's students, 1,916 doctoral students and 941 international students).

The domestically leading discipline of earth sciences in CUG has transformed into a characteristic leading discipline, reaching a globally advanced level, and other newly-built disciplines have gradually evolved into the top ranking of 1% in the globe. Traditional dominant disciplines, such as geology, geological resources and geological engineering, ranked first in all previous national discipline evaluations. Newly-built disciplines enjoyed a sound momentum of development, and a well-coordinated discipline system has been initially established. As of July 2021, discipline fields of Geoscience, engineering, environmental ecology, materials science, chemistry, computer science and social science of CUG has entered the top 1% of ESI, with rankings continuously improved. Among them, geoscience and engineering have entered the top 1% and geoscience has ranked the 14th in the world.

The structure of the faculty team of CUG is constantly optimized. In 1985, less than 10% of faculties had master's degrees or above, and 79% of full-time faculty had doctor's degrees as of 2020. The introduction and training system of high-level talents and the evaluation system has been continuously improved, and a team of high-level, international and multidisciplinary academic leaders and young academic backbones have been preliminarily organized, among which 5 were selected as Clarivate (formerly Thomson Reuters) "highly-cited scientists", 9 were selected as Elsevier "highly-cited scholars", and 61 were selected as ESI highly-cited authors.

CUG has transformed from a university providing talent training and social service only to the geological prospecting industry to one catering to all sectors of society and global institutions. At present, the "3 integration" talent training mode of "interdisciplinary and professional integration, teaching and research practice integration, innovation and entrepreneurship education and professional education integration" has preliminarily shaped up. On the basis of maintaining close contact with the geological exploration industry, CUG not only supports the development of Hubei Province of China but also actively caters to the whole country, vigorously promoting the cooperation of government, industry, education and research, and actively supporting industrial, regional and local economic and social development. The training quality of international students in CUG has been greatly improved, with their employment competitiveness continuously enhanced. The field of employment involves domestic and foreign universities, world-famous enterprises, overseas government agencies, etc. The number of CUG students studying abroad and looking for jobs is also increasing.

The management system featured with centralization of power in the 1980s in CUG has evolved into an internal governance system with the coordinated operation and clearly defined responsibilities, rights and interests. Through several reforms, a modern university system with Chinese characteristics in line with the actual condition of CUG has been preliminarily established. The governance system of "leadership from the Party Committee, university affairs governance by the President, academic affairs governance by professors and implementing democratic participation" has been continuously improved; teachers, students and other stakeholders have played an ever critical role in the decision-making of major affairs of CUG; the democratic participation mechanism represented by Teachers' Congress, Students' Congress, Council and Alumni Association has been optimized; the rights and responsibilities of the university-school two-tier governance system have been more clearly specified, unleashing greater vitality for school running.

### 3. Experience of Strategic Change amid CUG's Transformation Development

CUG has been adept at grasping the opportunity of change. In the face of critical opportunities for change, it is vital that studies were conducted for an accurate understanding of social development trends and modern university development rules. To do that, university leaders shall play a leading role in conducting an in-depth investigation and studies as well as in organizing faculties for deliberation and communication, with a focus on strategic demands occurred in industrial and economic and social development, and on national strategy and discipline development trends, as well as on 3 pairs of relationship, including the relationship between teaching and scientific research, dominant disciplines and other newly-built ones, as well as between priorities and general issues. Therefore, it is significant to gather the wisdom of the staff, seek consensus so as to generate strategic decisions and specific implementation measures, improve the strategic management ability of governance, and promote strategic change amid university development.

CUG由单一地质类学科结构转变为以地球科学为主要特色、多学科协调发展的学科结构。1985年前,学校主要是地质类学科专业,只有相当于现在分类的4个一级学科博士点和5个一级硕士点。经过35年的发展,到2020年底,学校已有16个一级学科博士点(其中含人文社会科学4个博士点),涵盖理学、工学、经济学、管理学等8个门类的34个一级学科硕士点,15个博士后科研流动站,有工程硕士、MBA、MPA等10个专业学位授予权;在校学生规模由1985年9月份的4340人(其中硕士生515人,博士生54人)发展到2020年底的30239人(本科生18080人,硕士生9302人,博士生1916人,国际学生941人)。

CUG学科水平由单一地球科学类国内先进转变为特色优势学科进入世界先进水平、其他新建学科也逐步进入国际排名1%。传统的优势学科如地质学、地质资源与地质工程在国家历次学科评估中均排名第一;新建学科发展势头良好,相互协调的学科体系初步建成。截止2021年7月,我校已有地球科学、工程学、环境生态学、材料科学、化学、计算机科学、社会科学7个学科领域进入了ESI前1%,且排名持续提升,其中地球科学、工程学进入前1%,地球科学排名全球第14位。

CUG师资队伍结构不断优化。1985年,具有硕士学位以上的教师不足10%,2020年,具有博士学位的专任教师已达79%。高水平人才引进与培养体系、评价体系不断健全,一批具有高水平、国际化、多学科融合的学科带头人、青年学术骨干初步形成。入选科睿唯安(原汤森路透)“高被引科学家”5人、爱思唯尔“高被引学者”9人,入选ESI高被引论文作者61人。

CUG从面向地质勘探行业单一的培养人才与社会服务转变为面向全社会、全球机构提供毕业生与社会服务。目前,学校“跨学科专业交叉融合、教学与科研实践融合、创新创业教育与专业教育融合”的人才培养模式初步形成;在保持与地质勘探行业紧密联系的基础上,立足所在省份,面向全国,大力推进政产学研合作,积极服务行业、区域和地方经济社会发展。来华留学生培养质量得到较大提高,就业竞争力不断增强,就业领域涉及国内外高校、世界知名企业、海外政府机构等。本校学生到国外求学、求职的数量也不断增多。

CUG从20世纪80年代权力集中化的管理体系初步转变为运作协调、责权利明晰的内部治理体系。通过多次改革,具有中国特色、符合校情实际的现代大学制度初步建成。党委领导、校长治校、教授治学、民主参与的治理体系不断完善;师生等利益相关者在学校重大事务决策中的作用有效发挥,以教代会、学代会、理事会、校友会为代表的民主参与机制更加健全;校院两级权责更加明晰,办学活力得到有效激发。

### 3. 中国地质大学转型发展的战略变革经验

善于把握变革时机。在面临变革的关键时机,应加强研究,准确把握社会发展趋势和现代大学发展规律。高层领导要带头深入调查研究,组织师生员工建言献策,重点研究行业与经济社会发展的战略需求点,国家战略和学科发展趋势,教学与科研、优势学科与其它新建学科以及突出重点与兼顾一般的关系等,集中教职员工的智慧,达成共识,形成战略决策和具体实施措施,提高治校的战略管理能力,推动学校发展的战略变革。

CUG has stressed and promoted the establishment of a clear common vision and the formation of a shared value system. In the process of strategic change, it is essential that universities shall follow the law of higher education and the law of talent growth, take "people's satisfaction" as the value criteria for running a university, reckon the "pursuit of excellence" as the ideal pursuit of running a university, regard adhering to First-Class standards with international vision as the basic principle of promoting the reform and development of itself and develop a shared vision, mission and values through continuous exploration. A clear common vision, mission and values can effectively improve the leadership and organizational effectiveness of the university, facilitating the formation of consensus, and better promoting the strategic change of universities.

Moreover, CUG consolidates the strategic planning system and strengthen strategic process management. While stressing the formulation of the development plan, the strategic process management should also be strengthened, with emphasis attached to the implementation of the decomposition indicators and tasks of the overall development plan. Based on the development plan of each unit, implementation performance will be regarded as an important reference for increased investment from the university. Meanwhile, the faculty evaluation in each phase of appointment should be strengthened, linking personal income with post responsibility and work performance. The above measures prove to be effective in enhancing the supervision on the implementation of the university development planning system.

Last but not least, CUG clearly specifies the roles of leaders at all levels. High-level leaders of universities shall be "never content with the status quo and never evade changes". They shall strive to become the planners, practitioners and driving force of the transformative development of universities by overcoming the fear of difficulties, emancipate their minds, get rid of stereotypes and behavioural inertia. And Middle-level leaders should be motivated and creative in their work and support the development of teachers so as promote integrated development with them. At the same time, middle-level leaders shall formulate strategic plans that are in line with the actual situation of the school and department development, in accordance with strategic goals developed by high-level leaders. Moreover, they should integrate internal resources and strengths, identify development orientation, focus on strategic targets, so as to seek excellence after thorough consideration.

**Conclusion**

With the continuous advancement of China's marketization process, like other industry-featured universities, CUG has taken various measures timely and appropriately in the process of transformative development to adapt to the development of the market economy. After more than 4-decades of development, CUG has successfully transformed itself from a single-discipline geological university to a multidisciplinary one with geological disciplines as its dominant characteristics and multi-disciplinary coordinated development. CUG has defined and refined its development objectives by a comprehensive examination of the internal and external environment. On such a basis, the strategic objective system is gradually established and discipline structure constantly improved in CUG with useful experience accumulated. Meanwhile, problems exposed and lessons learned in each stage of its strategic change are valuable assets. By looking ahead, in conducting further transformative development, firstly, university leaders should constantly improve their strategic management capability and reinforce their strategic execution. At the same time, grassroots level organizations, such as colleges, shall be further empowered in an effort to mobilize the initiative of all-staff participation in strategic change and strengthen their ability in facilitating strategic change. In addition, input-output analysis is essential to ensure the efficiency of resources allocation and application.

建立清晰的共同愿景，形成价值体系。在战略变革的过程中，应遵循高等教育规律和人才成长规律，把“人民满意”作为办学的价值尺度，把“追求卓越”作为办学的理想追求，把立足国际视野、坚持一流标准作为推进学校改革发展的基本原则，不断探索，形成具有自身特色的共同愿景、使命与价值观。清晰的共同愿景、使命与价值观能有力地提高学校的领导组织效能，促进形成共识，更好地推动学校战略变革。

构建战略规划体系，强化战略过程管理。在高度重视发展规划的编制的同时，强化战略过程管理。明确推进学校总体规划各项分解指标和任务的落实。将各单位发展规划的执行情况与发展绩效作为学校加强投入力度的重要依据。同时，加强对教职员工的聘期考核工作，优进拙退，将个人的收入与岗位责任、工作绩效挂钩，以此加大对学校发展规划体系的执行状况督查督办的工作力度。

明确各层领导者的角色。高层领导应克服“安于现状不想改”的惰性，战胜畏难情绪，解放思想，努力成为学校转型发展的谋划者、实践者、推动者。中层领导者则要具有工作自觉性、创造性，并给教师群体发展的支持量，与教师形成融合。同时，根据学校高层领导者制定的战略目标，制定符合院系发展的战略规划，对学院内部资源和力量进行整合，明确发展定位，聚焦战略重点，有选择地追求卓越。

**结论**

随着中国市场化进程不断推进，与其他的行业特色型大学一样，CUG在改革发展过程中，为了适应市场经济发展，及时采取各项措施，历经40多年，实现了由单科性高校向以地质学科为优势特色、多学科协调发展的多科性大学的转型发展。在此过程中，CUG始终充分审视内外环境，明确其发展目标，并逐步构建战略目标体系、完善学科专业体系，积累了有益经验。然而，从目前来看，其战略变革的各阶段也分别暴露出一定问题。展望未来，进一步转型发展中，首先，校领导应当不断提高自身战略管理能力以及提升战略执行力；同时，应进一步赋权于各学院等基层组织，调动全员参与变革的主动性，提高基层变革能力；另外，大学应当加强投入产出分析，确保资源使用效率。

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