HANDBOOK OF SCHOOL NUTRITION IMPROVEMENT INITIATIVE

China Development Research Foundation;

;

© 2020, CHINA DEVELOPMENT RESEARCH FOUNDATION

This work is licensed under the Creative Commons Attribution License (https://creativecommons.org/licenses/by/4.0/legalcode), which permits unrestricted use, distribution, and reproduction, provided the original work is properly credited.

Cette œuvre est mise à disposition selon les termes de la licence Creative Commons Attribution (https://creativecommons.org/licenses/by/4.0/legalcode), qui permet l'utilisation, la distribution et la reproduction sans restriction, pourvu que le mérite de la création originale soit adéquatement reconnu.

IDRC Grant/ Subvention du CRDI: 108365-001-Nutrition and food security in rural China: An assessment of school feeding system

CDRF 中国发展研究基金会 China Development Research Foundation

阳光校餐 数据平台 SCHOOL NUTRITION IMPROVEMENT INITIATIVE

阳光校餐数据平台项目

SCHOOL NUTRITION IMPROVEMENT INITIATIVE

阳光校餐数据平台

2007 年，中国发展研究基金会在广西都安县和河北崇礼县开展了“改善农村寄宿制学校儿童营养”的试点项目，为 2000 名学生所在学校提供食堂供应的午餐，以改善其饮食的营养状况。该试验结果受到了党中央国务院的肯定，推动了 2011 年国家“农村义务教育阶段学生营养改善计划”的出台。2016 年，全国受益儿童 3430 万，中央财政安排 189.4 亿，地方财政安排 61.5 亿，合计 251 亿元。

2015 年，基金会再次接受教育部、全国营养办委托，设立“阳光校餐数据平台”，监督“农村义务教育学生营养改善计划”政策落实的情况，客观、科学反映其对贫困地区学生的营养补充所起到的作用，并提出政策建议。目前试点已扩展至 100 个县、9200 余所学校，387 余万学生。

经过检查分析，食堂供午餐的男、女寄宿生身高，较 2012 年各年龄段平均身高增长了 5.70 厘米和 5.57 厘米；男、女非寄宿生身高增长了 5.02 厘米和 4.98 厘米。营养改善计划对学生体质改善有显著效果。”

School Nutrition Improvement Initiative

In 2007, CDRF began to pilot “Nutrition Improvement Program in Rural Boarding Schools” program in Guangxi and Hebei Province, providing school lunches for about 2,000 students in order to improve their nutritional status. The Central Committee of the Communist Party of China and the State Council recognized the pilot program, which promoted the official introduction of the national “Nutrition Improvement Plan for Rural Students in Compulsory Education” in 2011. In 2016, around 34.3 million students have benefited from it. The Plan has received a fiscal budget totaled 25.1 billion yuan from both the central government (18.94 billion) and local governments (6.15 billion).

In 2015, entrusted by the Ministry of Education, CDRF launched the “School Nutrition Improvement Initiative” program to supervise the implementation of the national project and to objectively and scientifically examine its effect on rural students in improving their nutrition levels, before formulating recommendations on policy adjustment. To date, this program has covered 3,870,000 students in nearly 9,200 schools from 100 counties nationwide.

According to the examination and analysis, with the year 2012 as the baseline, the average height growth of male and female boarders who ate school lunches are 5.7 cm and 5.57 cm respectively, while that of male and female non-boarders are 5.02 cm and 4.98 cm. This increase makes clear the improvements to student's health induced by the Nutrition Improvement Plan.

目录
CONTENTS

01 第一章 Chapter 1

贫困地区儿童营养状况
Nutritional Status of Children in Poverty-Stricken Areas

我国农村贫困地区儿童营养现状 02
Nutritional Status of Children in Poor Rural China

儿童营养的重要意义 05
The Importance of Child Nutrition

国际经验 08
International Experience

11 第二章 Chapter 2

阳光校餐项目体系
Project System of School Nutrition Improvement Initiative

项目实施 12
Project Implementation

监管模式 16
Supervision Model

效果评估 20
Effectiveness Evaluation

23 第三章 Chapter 3

试点县经验政策
Experience from Pilot Counties

30 第四章 Chapter 4

评估研究
Evaluation Research

实证研究 38
Empirical Research

调研和会议 40
Fieldwork and Conference

43 第五章 Chapter 5

国际交流
International Communication

47 第六章 Chapter 6

政策建议
Policy Recommendations

50 附录 1 Appendix 1

各县项目执行反馈报告
Program Implementation Reports by Pilot Counties

56 附录 2 Appendix 2

优秀校餐征文
Essays Portfolio

1. Nutritional Status of Children in Poverty-stricken Areas

贫困地区儿童营养状况

我国农村贫困地区儿童营养现状

Nutritional Status of Children in Poor Rural China

儿童营养不良问题是人类可持续发展的最大挑战（Cole, Flegal, Nicholls 和 Jackson, 007；Smith 和 Haddad, 2000）。《中国居民营养与慢性病状况报告（2015）》指出，居民营养状况是国家经济增长、社会发展以及人口健康水平的重要指标。

早期营养不良会阻碍儿童大脑和体质发育，进而影响到学习、成年后的生活，最终造成贫困的代际传递。儿童营养是一项投入较小而回报很高的人力资本投资。随着国家制定一系列行动、目标方针和政策， 我国儿童的营养和健康水平有了很大的提高。

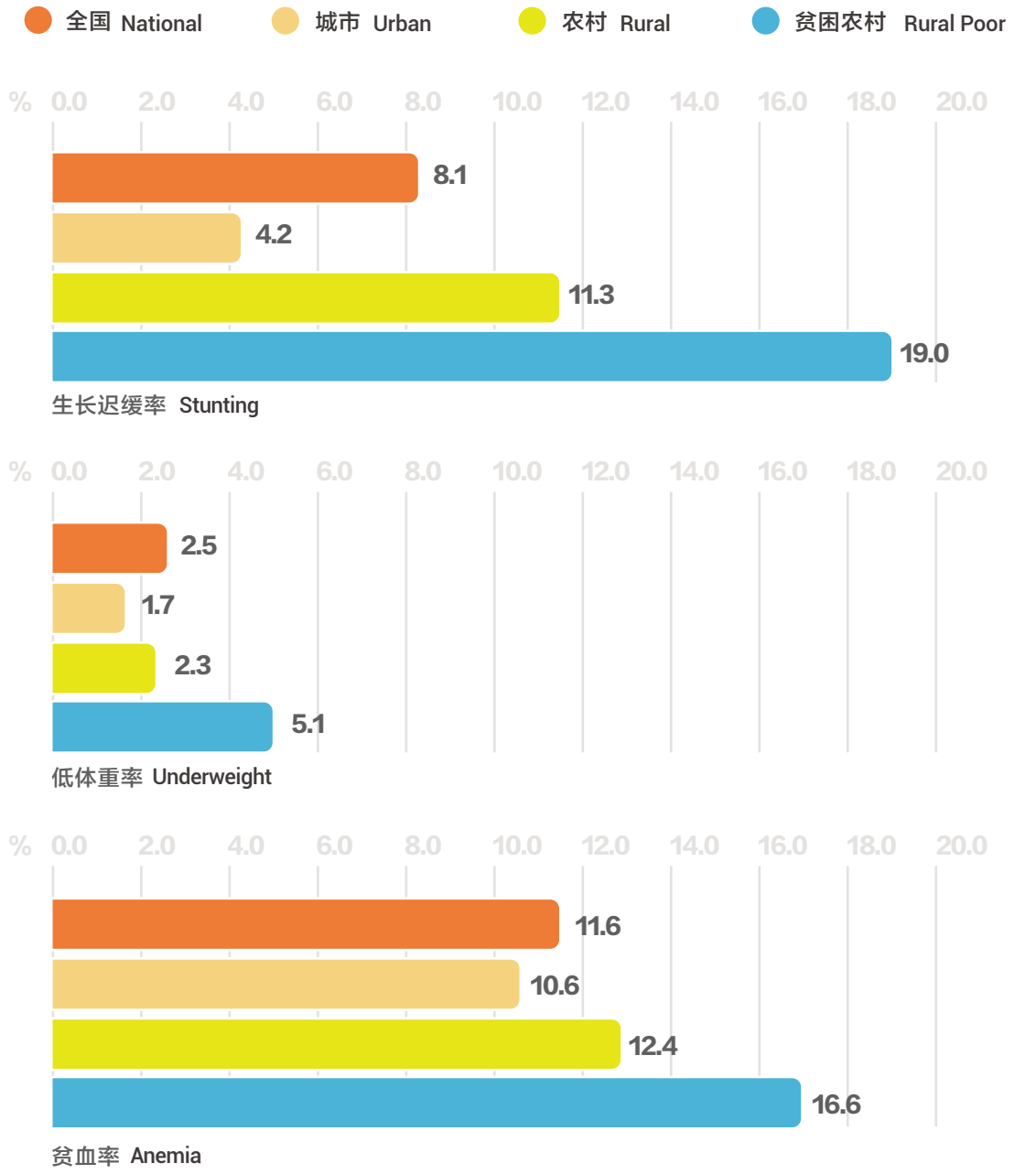
但是，儿童营养不良的问题仍然存在，贫困农村地区是尤其薄弱的环节。生长迟缓、低体重和贫血仍是中国贫困地区 0–6 岁儿童存在的主要营养问题。《中国居民营养与慢病状况报告（2015）》数据显示，2013 年贫困地区儿童生长迟缓率、低体重率、贫血率约为城市的 4–5 倍、农村的 1–2 倍，儿童营养状况城乡和地区差异显著，农村地区特别是偏远贫困地区的儿童营养状况亟待改善。

Child malnutrition is the greatest challenge to sustainable human development (Cole, Flegal, Nicholls & Jackson, 2007; Smith & Haddad, 2000). According to the 2015 Report on Nutrition and Chronic Diseases of Chinese Residents, the nutritional status of residents is an important measure of economic growth, social development and population health.

Early-stage malnutrition stunts the development of children's brains and bodies, which in turn affects learning, adult life, and ultimately inter-generational transmission of poverty. The investment in children's nutrition is an investment in human capital with a high return. The Chinese government has introduced a series of action plans and policies that result in marked improvements in the nutrition and health of children in China.

However, child malnutrition remains a problem, particularly in poor rural areas. Stunting, underweight and anemia are still the main nutritional problems of children aged 0-6 in poor areas of China. According to the 2015 Report on Nutrition and Chronic Diseases of Chinese Residents, the prevalence of stunting, underweight and anemia among children in poor rural areas in 2013 was about 4-5 times that in urban areas and 1-2 times that in rural areas. Apparently, the nutritional status of children differs widely between urban and rural areas and between different regions. The children in rural areas, especially those in remote and impoverished areas, are in urgent need of nutrition improvement.

中国6岁以下儿童生长迟缓率、低体重率、贫血率对比
Prevalence of Stunting, Underweight and Anemia among Children under 6 in China



资料来源：《中国居民营养与慢病状况报告》（2015）
Source: 2015 Report on Nutrition and Chronic Diseases of Chinese Residents

青少年时期是饮食习惯的形成时期，对成年后的饮食生活具有决定性作用。根据世界银行的人口统计，全球范围内 5 ~ 19 岁的儿童及青少年人数约占中低收入国家人口数的 27%，其中大量 5 ~ 15 岁的适龄儿童正经受营养不良与肥胖的双重挑战。此外，类似贫血等由于缺乏微量元素而导致的疾病也大范围存在[1]。

根据“中国学生体质与健康调研”数据，2014 年我国 7 ~ 18 岁儿童青少年营养不良（包括生长迟缓及消瘦）检出率为 10.0%（其中生长迟缓、中重度消瘦、轻度消瘦分别为 0.8% 、3.7% 、5.5%），这一比率虽然相较于 2010 年下降了 2.6%，但总体检出率仍然较高[3]。

我国的营养不良问题存在显著的城乡差异。2010 – 2013 年全国居民营养健康状况调查数据显示，2012 年我国城市与农村 6 – 11 岁儿童青少年生长迟缓率分别为 1.3% 与 4.6%，消瘦率分别为 7.5% 与 10.2%，贫血患病率则分别为 4.5% 与 5.5%[5]。同时，营养不良检出率较高的地区主要集中在西部地区，尤其是西南地区，并在留守儿童等特殊人群中尤为突出[6]。

The eating habits formed during one's adolescence play a decisive role in his or her adult life. According to the World Bank's demographic statistics, children and adolescents aged 5-19 account for about 27% of the population in low- and middle-income countries, and a large number of school-age children aged 5-15 are suffering from malnutrition and obesity. In addition, diseases caused by micronutrient deficiencies such as anemia are widespread[2].

According to the Survey on the Physical Fitness and Health of Chinese Students, the prevalence of malnutrition (including stunting and wasting) among children and adolescents aged 7-18 was 10% in 2014 (specifically 0.8%, 3.7% and 5.5% for stunting, moderate to severe wasting, and mild wasting). Although the ratio dropped 2.6% over 2010, the overall prevalence was still high[4].

Malnutrition in China differs sharply between urban and rural areas. According to the national survey on nutrition and health from 2010 to 2013, in 2012, the prevalence of stunting among children aged 6-11 was 1.3% and 4.6% respectively in urban and rural areas, compared to 7.5% and 10.2% for wasting and 4.5% and 5.5% for anemia[7]. Furthermore, malnutrition was more prevalent in western China, especially in southwest areas and in special groups such as left-behind children[8].

1/2 Re-imagining School Feeding: A High-Return Investment in Human Capital and Local Economies, Oct. 2018, World Bank Group.

3/6 彦会，王政和，杨招庚，王西婕，陈妍君，邹志勇，马军 .2005 年至 2014 年中国 7 ~ 18 岁儿童青少年营养不良流行现状及趋势变化分析 [J]. 北京大学学报（医学版）,2017,49(03):424-432.

4/8 Dong Yanhui, Wang Zhenghe, Yang Zhenggeng, Wang Xijie, Chen Yunjun, Zou Zhiyong, and Ma Jun. Malnutrition among Children and Adolescents Aged 7-18 in China: Prevalence and Changes from 2005 to 2014 [J]. Journal of Peking University (Health Sciences), 2017, 49(03): 424-432.

5 赵丽云，郭齐雅，李淑娟，赵文华，丁钢强 . 加强营养调查与监测，改善中国居民营养与健康状况 [J]. 卫生研究 ,2019(04):517-522.

7 Zhao Liyun, Guo Qiya, Li Shujuan, Zhao Wenhua, and Ding Gangqiang. Strengthen Nutrition Survey and Monitoring to Improve the Nutrition and Health of Chinese Residents [J]. Journal of Hygiene Research, 2019 (04): 517-522.

儿童营养的重要意义

The Importance of Child Nutrition

儿童营养状况是衡量整个人群营养状况最敏感的指标，也是人口素质的基础。婴幼儿期的营养不良可能导致儿童不可逆转的生长和认知发育迟缓，从而影响智力潜能的发挥，降低学习能力和成年后的劳动生产能力，加大成年后患肥胖、高血压、冠心病和糖尿病等诸多慢性疾病的风险。

The nutritional status of children is the most sensitive measure of the nutritional status of the entire population, and also the basis for the quality of population. Malnutrition in infants and young children can lead to irreversible growth and cognitive retardation in children, which affects the development of intellectual potential, reduces learning ability and labor productivity in adulthood, and increases the risk of many chronic diseases in adulthood, including obesity, hypertension, coronary heart disease and diabetes.

儿童营养不良率和患病率高低是社会经济卫生保健、膳食营养状况和文化教育的综合反映。营养不良会影响人的生命质量和社会公平，是人口预期寿命、学习和劳动能力、人力资源状况、经济发展以及疾病和疾病负担等社会经济要素的主要决定因素。

The prevalence of malnutrition and diseases among children serves as a general indication of economic, healthcare, dietary nutrition and education levels in a society. Malnutrition affects people's quality of life and social equity. It is a major determinant of factors such as life expectancy, ability to learn and work, human resources, economic development, and disease burden.

同时，儿童营养状况与死亡率也有着密切的关系。据世界卫生组织报告，全球 5 岁以下儿童死亡归因于营养不良的比例达 35%，急性重度营养不良儿童的死亡风险是非营养不良儿童的 9 倍。

儿童期营养状况直接影响联合国千年发展目标 1（挨饿人口比例减半，降低 5 岁以下儿童低体重率）和目标 4（降低 5 岁以下儿童死亡率）的实现，与经济社会发展密切相关；如果采取积极的干预措施，将会带来显著的经济效益和社会效益（《中国 0–6 岁儿童营养发展报告》，2012）营养不良是贫困的基础原因，不解决人的营养问题，脱贫就不能实现。进行有效的营养干预行动是消除贫困地区饥饿和营养不良的关键。

In addition, child nutrition and mortality are closely related. According to the World Health Organization, 35% of all deaths among children under five worldwide are caused by malnutrition, and the risk of death among children with acute severe malnutrition is nine times that among non-malnourished children.

Childhood nutrition directly affects the achievement of MDG 1 (halving the proportion of people suffering from hunger and reducing the prevalence of underweight among children under five) and MDG 4 (reducing under-five mortality rate), which is closely related to economic and social development. Active interventions would bring significant economic and social benefits, as it is noted in the 2012 Report on the Nutritional Development of Children Aged 0-6 in China. Malnutrition is one of the root causes of poverty. Poverty alleviation cannot be achieved without addressing the issue of nutrition. Effective nutrition interventions are key to eradicating hunger and malnutrition in poor areas.

根据世界银行及联合国粮食计划署出具的报告显示，校餐项目可以有效普及教育、推动性别平等、提高营养摄入、加强社会保护以及促进当地经济及农业发展[9]。有学者在研究了 52 个中低收入国家的 216 个教育项目后发现，校餐项目是其中为数不多的能够同时促进学习参与度(包括入学、出勤、毕业)且提升学生成绩(包括认知能力、语言及数学成绩)的干预项目[10]。

另外，通过对比研究 11 个国家的校餐项目，有学者发现学校供餐可以有效降低学龄儿童贫血率并补充其体内的微量营养素（尤其是铁、维生素 A、碘和叶酸）[13]。这些积极影响在学龄女孩身上更为明显[14]，有利于进一步推动性别平等。校餐项目的成功实施还可以产生一定的积极外溢效应，从而带动全球经济增长。据世界银行与马拉拉基金会发布的一份报告预测，如果全球范围内所有适龄女孩都成功接受中等教育，新增女性生产力将为全球经济带来 30 万亿美元的增值[15]。在社会保护方面，校餐项目缩减了贫困家庭 10% 左右的的日常开支，且带动了家庭农产品产业的发展，在一定程度上阻隔了贫困的代际传递[16]。

According to a report by the World Bank and the World Food Programme (WFP), school feeding programs can help to promote education and gender equality, increase nutrition intake, strengthen social protection, and drive local economic and agricultural development[11]. A study of 216 education programs in 52 low- and middle-income countries finds that school feeding is one of the few interventions that can increase participation in learning (including enrollment, attendance, and graduation) and improve student performance (including cognitive ability, language, and math) at the same time[12].

In addition, a comparison of school feeding programs in 11 countries shows that school feeding can effectively reduce the prevalence of anemia among school-age children and increase their intake of micronutrients (especially iron, vitamin A, iodine and folic acid)[17]. Such positive effects are more pronounced in school-age girls[18], which is conducive to the further promotion of gender equality. The successful implementation of school feeding programs can also produce some positive spillover effects, thus driving global economic growth. A report published by the World Bank and the Malala Fund says that if all school-age girls in the world completed secondary education, the additional productivity of women would add USD30 trillion to the global economy[19]. In terms of social protection, school feeding programs reduce the daily expenditure of poor families by about 10% and promote the development of agricultural products industry, which, to some extent, hinders the intergenerational transmission of poverty[20].

9 / 11 Re-Imagining School Feeding: A High-Return Investment in Human Capital and Local Economies, World Bank Group, Oct. 2018.

10 / 12 Snilstveit et al. (2015) Interventions for Improving Learning Outcomes and Access to Education in Low- and Middle-Income Countries: A Systematic Review. Systematic Review 24, International Initiative for Impact Evaluation (3ie), in Bashir et al. Facing Forward: Schooling for Learning in Africa. Washington, DC: World Bank, 2018.

13 / 17 Best et al. (2011) Can multi-micronutrient food fortification improve the micronutrient status, growth, health, and cognition of schoolchildren? A systematic review. Nutrition Reviews 69(4): 186-204

14 / 18 School Meals and Education Factsheet, WFP, 2016.

15 / 19 Missed Opportunities: The high cost of not educating girls, www.worldbank.org/en/topic/education/publication/missed-opportunities-the-high-cost-of-not-educating-girls, World Bank Group, 2018.

16 / 20 Bundy et al. (2009) Re-thinking School Feeding: Social Safety Nets, Child Development, and the Education Sector, Directions in Human Development, World Bank Group, (1) xvi

国际经验

International Practices

图片来源 Source：https://www.fns.usda.gov/nslp

美国学校午餐计划

U.S. National School Lunch Program

美国国会在上世纪 50 年代就通过了《国家学校午餐法案》，正式启动全美学校午餐计划(National School Lunch Program)。截至 2016 年，美国政府已经提供了超过 2240 亿份午餐，超过 3000 万美国中小学生已纳入这一计划，每年的 50 亿份午餐有近 75% 以免费或低价的方式提供给了低收入家庭。（USDA, 2016）

The U.S. Congress passed the National School Lunch Act in the 1950s, officially launching the National School Lunch Program. By 2016, the U.S. government had provided more than 224 billion lunch meals, and more than 30 million American primary and middle school students had been included in the program. Nearly 75% of the 5 billion lunch meals offered to low-income families each year were free or low-cost.

日本学校营养午餐计划

Japan's School Lunch Program

日本是世界上推行学校营养午餐最深入、最完善的国家。1954 年通过的《学校营养午餐法》等一系列法律法规明确提出在国内中小学校中建立营养配餐中心，配备专业营养师，在全国范围内推行学校营养午餐计划。截至 2018 年，日本提供校餐的小学达到总数的 99.1%，几乎全部覆盖，中学则达到总数的 89.9% 。

Japan runs the best school lunch program in the world. A host of laws and regulations including the School Lunch Law passed in 1954 make it clear that lunch preparation centers with professional nutritionists must be established in primary and middle schools, and the School Lunch Program is carried out nationwide. As of 2018, 99.1% of the primary schools in Japan offered lunch meals, while the figure was 89.9% for middle schools.

巴西学校供餐计划

PNAE, Brazil's National School Meal Program

巴西的全国学校供餐计划（PANE）于 1954 年开始在巴西执行，旨在为全国的公立和慈善托儿所、学前班和小学学生提供 180 至 200 个学校上课日里营养摄取总量 15% 到 30% 的食物。截至 2019 年，该项目已惠及四千八百万学生。

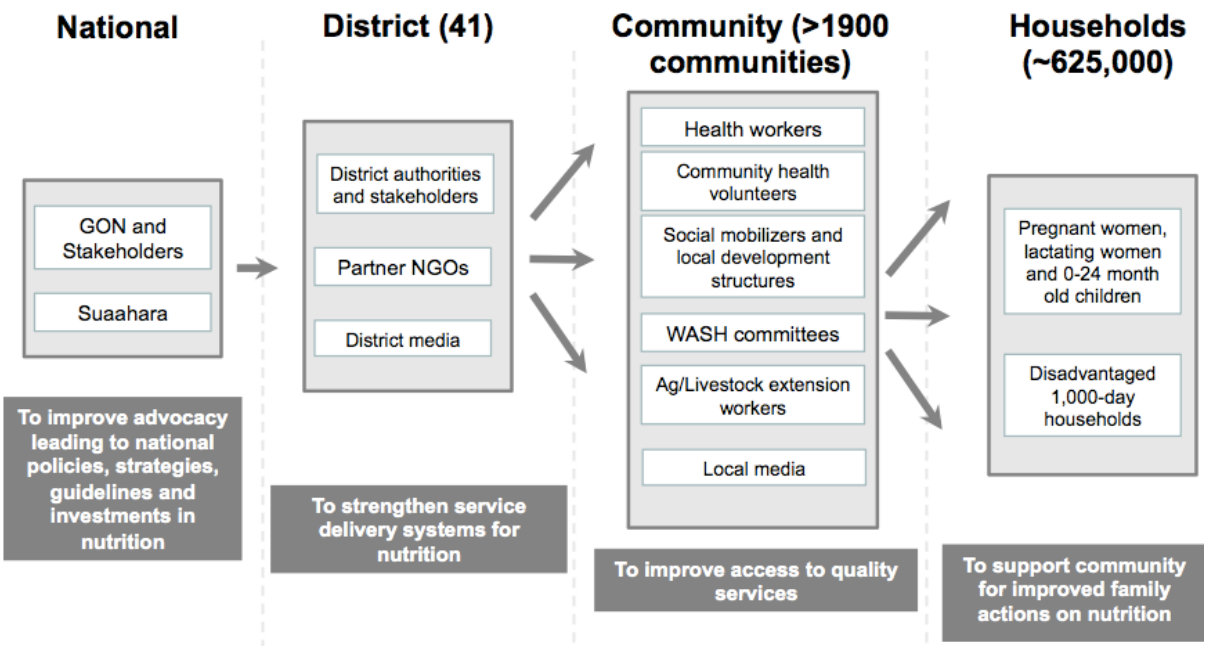
Launched in Brazil in 1954, PNAE (Programa Nacional de Alimentação Escolar) aims to provide students at public and charitable day care centers, preschools and primary schools across the country with 15% to 30% of the food they consume for 180 to 200 school days. By 2019, the program has benefited 48 million students.

尼泊尔“好营养”项目

Nepal's Good Nutrition Project

“好营养”项目 (Good Nutrition Project) 是尼泊尔于 2011 年至 2016 年施行的儿童营养改善计划。该项目致力于倡导人们改变卫生行为，通过多部门合作的方式（包括卫生、农业、净水卫生以及政府治理参与）将国家政策倡导和地方制定计划相结合。目前该项目已在尼泊尔的 41 个地区展开，覆盖了 625000 户家庭。

The Good Nutrition Project is a nutrition improvement program for children carried out in Nepal from 2011 to 2016. The project was intended to encourage people's health behavior changes by combining national policy advocacy with local development plans through multi-sectoral efforts (health, agriculture, water sanitation and governance engagement). The project was launched in 41 districts of Nepal, covering 625,000 households.



图片来源 Source：http://tsf.cdrf.org.cn/Content/Detail/30/42/938

埃塞俄比亚学校营养餐计划

Ethiopia's School Feeding Program

埃塞俄比亚“学校营养餐计划”由联合国世界粮食计划署和美国蓝澳雷克斯农业股份有限公司联合实施。从 1994 年开始至今，该项目已覆盖 1097 所学校，受惠人数从 1994 年的 2.5 万人增加到 2005 年的 58.3 万人。

Ethiopia's School Feeding Program is jointly run by the WFP and Land O'Lakes. The program has covered 1,097 schools since 1994 and the number of students benefited rose from 25,000 to 583,000 in 2005.

2.

Project System
of School Nutrition Improvement Initiative

阳光校餐项目体系

项目实施

Project Implementation

2006 年，中国发展研究基金会在广西壮族自治区都安县调研发现，贫困地区农村儿童发育迟缓问题突出，13 岁贫困农村男孩的平均身高仅相当于城市里 10 岁男孩的平均身高，农村绝大多数学校基础设施落后，没有食堂。虽然很多学生住校，但学校只能为学生提供蒸熟的米饭和白水煮黄豆作为午餐。

这种饮食严重影响了儿童的生长发育。基金会联合专家团队采用了“24 小时回顾与称重法”，计算了学生每日营养摄入量，结果显示，广西都安学生摄入的营养量严重不足，甚至不到国家推荐青少年营养摄入量的 60%。营养问题成为促进社会公平发展迫切需要解决的问题。

In 2006, China Development Research Foundation (CDRF) conducted a survey in Du'an County, Guangxi Zhuang Autonomous Region, and found that the growth retardation of children in poor rural areas was prominent. The average height of a 13-year-old poor rural boy was only equivalent to the average height of a 10-year-old boy in urban area. Most rural schools have poor infrastructures and have no school canteens. Although many students live in schools, the schools only serve steamed rice and boiled soybeans for lunch.

This nutritional status seriously affects the growth and development of children. CDRF, in cooperation with an expert team, used the "24-hour review and weighing method" to calculate the daily nutritional intake of students, and the results showed that the intake of students in Du'an is seriously inadequate, even less than 60% of the national recommended nutritional intake of school-age children. The issue of nutrition has become an urgent problem to be solved in promoting social equity and development.

▶ ▶ ▶ *2006 年广西壮族自治区都安县农村学校的学生午餐*

School Meals in Du'an County, Guangxi Zhuang Autonomous Region in 2006

基于 2006 年的调研，中国发展研究基金会从 2007 年开始在广西和河北开展了“贫困地区农村义务教育寄宿制学生营养改善”项目。基金会与地方政府合作，在农村寄宿制学校建食堂，聘请了食堂厨师，为大约 2000 名学生提供免费的午餐，并为每位学生提供每餐 3 元（约合 0.45 美元）的补助。试点项目运行一年后，学生的营养和身体状况均得到了明显改善。2008 年，基金会和中国疾病预防控制中心撰写了项目报告并上报国务院有关领导，时任总理温家宝对报告做出了重要批示。

2011 年末，国务院在 699 个集中贫困县启动实施了《农村义务教育学生营养改善计划》。这些县主要集中于中国中西部地区，是最贫困、最偏远的山区县，人均收入低于 2676 元（394 美元）。为了给 2300 万农村学生提供午餐，中央财政每年投入 180–190

Based on the 2006 survey, CDRF began to pilot the “Nutrition Improvement Program in Rural Boarding Schools” in Guangxi Zhuang Autonomous Region and Hebei Province in 2007. CDRF worked with local governments to build canteens in rural boarding schools, hired canteen chefs and provided free lunch for about 2,000 students, with a subsidy of 3 yuan (0.45 USD) per meal per person. After one year of operation of the pilot program, the nutritional and physical conditions of the students have been significantly improved. In 2008, CDRF and Chinese Center for Disease Control and Prevention wrote a project report and submitted it to leaders of the State Council, and Premier Wen Jiabao commented positively on the report.

At the end of 2011, the State Council introduced the National Nutrition Improvement Plan for Rural Students Receiving Compulsory Education in 699 contiguous poor counties. These are the poorest, most remote counties located in the central and western regions of China with an annual per capital personal income lower than 2,676 yuan (394 USD). The central government has allocated 18-19 billion yuan (2.64-2.79 billion

亿元（约合 26.4–27.9 亿美元），平均每个学生每天有 3 元（约合 0.45 美元）的补助。

从 2015 年开始，该补助标准上调至 4 元（0.6 美元）。2017 年，《农村义务教育学生营养改善计划》规模扩大至 834 个县，惠及 3400 万 7–15 岁儿童。中央政府在这方面的年度支出超过了 186 亿元。

2015 年，受教育部全国学生营养办的委托，中国发展研究基金会为营养改善计划设立了大数据平台—“阳光校餐”数据平台，利用大数据、互联网、手机 APP 实时监督和评估农村义务教育学生营养改善计划。该平台是中国首个利用数据技术监督民生政策的项目，其目的在于保障营养改善计划的资金安全、食品安全，确保学生营养状况得到改善。

USD) annually to the local governments in order to provide free school lunches to 23 million rural students by providing subsidies of 3 yuan (0.45 USD) per student per day.

Since 2015, the subsidy for each student has been raised to 4 yuan (0.6 USD). In 2017, the National Nutrition Improvement Plan was expanded to cover 834 counties and benefited 34 million children aged from 7 to 15 years old. In this aspect, the annual expenditure of the central government was more than 18.6 billion yuan.

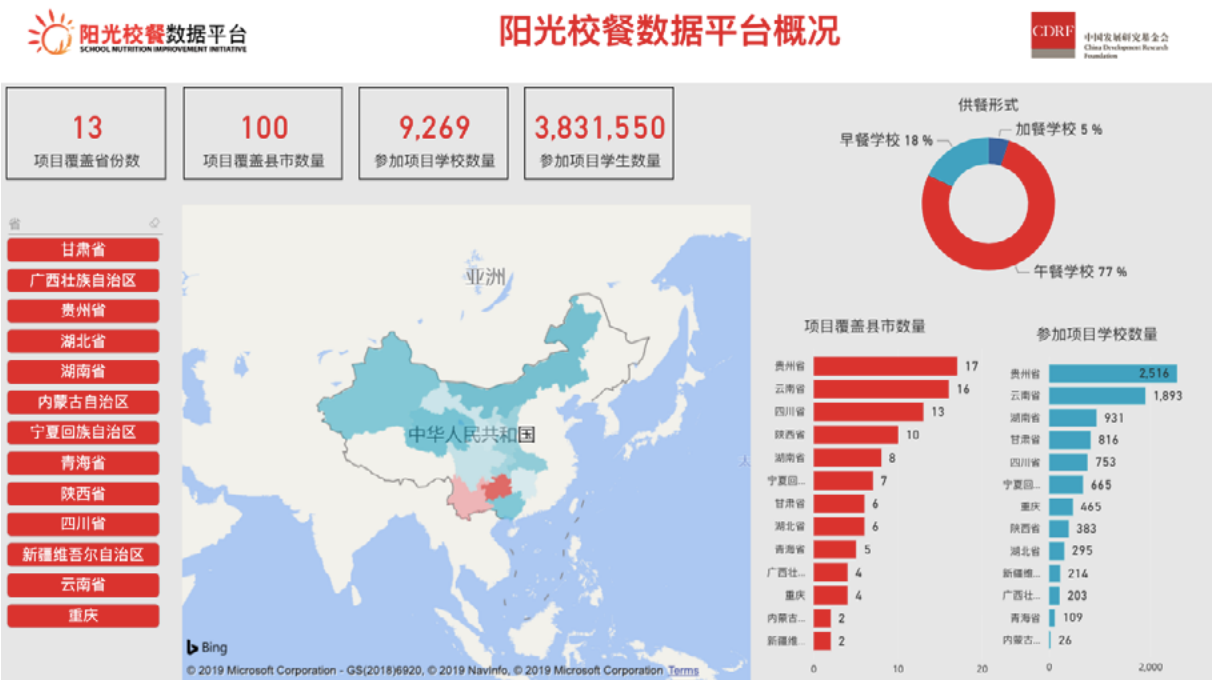
In 2015, entrusted by the National Student Nutrition Office of the Ministry of Education, CDRF built a data platform for the School Nutrition Improvement Initiative, using the Internet, big data and other technologies for real-time monitoring and evaluation of the Initiative. The platform is China's first project using data technologies to monitor the implementation of policies on people's livelihood, aiming to ensure fund security and food security related to the Initiative and improve the nutritional status of students.

目前“阳光校餐”数据平台覆盖 13 个省的 100 个贫困县的 9200 余所学校，383 万学生，直接监测中央资金 31 亿元（约合 4.6 亿美元）和 383 万名学生的营养状况。平台建立并运行的三年来，共获取营养改善计划执行情况相关有效数据 1020 万条，数据包括学校基本信息 21 万条、学生基本信息 108 万条、贫困信息 2 万条、采购信息 330 万条、资金使用信息 367 万条、体质改善信息 192 万条，记录了 620 万张贫困农村学校的供餐照片。

At present, the School Nutrition Improvement Initiative data platform covers 3.83 million students of more than 9,200 schools in 100 poverty-stricken counties in 13 provinces, directly monitoring 3.1 billion yuan (460 million USD) of funds from the central government and the nutritional status of 3.83 million students. Since it was established three years ago, the platform has got 10.2 million valid data related to the implementation of the nutrition improvement plan, including 210,000 data of basic information on schools, 1.08 data of basic information on students, 20,000 data related to poverty, 3.3 million data related to purchase, 3.67 million data related to fund use, and 1.92 million data related to health improvement, and recorded 6.2 million pictures of poor rural school meals.

平台可视化概况

Overview of Platform Visualization



监管模式

Supervision Model

阳光校餐
数据平台
SCHOOL NUTRITION
IMPROVEMENT INITIATIVE

“阳光校餐”数据平台由三个部分组成：手机客户端、互联网（网站）和数据仓库。其运行架构是：

School Nutrition Improvement Initiative data platform consists of three parts: mobile client, Internet (website) and database. Its operating framework is:

手机客户端

Mobile Client

试点学校教师直接通过手机客户端上传该学校每天的营养改善计划实施数据，包括食品采购金额与数量、食材消耗量、全校用餐人数、食物浪费情况和学生用餐照片；这些信息和照片实时通过互联网对外公布，接受全社会监督。

Teachers of the pilot schools upload the daily implementation data of the nutrition improvement plan directly through the mobile app, including the amount and quantity of food purchase, food material consumption, number of diners in the school, food waste and photos of students' meals. These information and photos are released through the Internet for public supervision.

数据库

Database

相关数据信息通过数据仓库的运算系统进行统计分析，内容包括：统计各校每日食品采购价格并与农业部公布的全国农产品批发价格进行对比，确保食品采购价格的公开、透明、合理；统计各类食物与微量元素的摄入情况并与国家的建议摄入量进行对比，确保营养膳食结构合理均衡；追踪对比各监测县的学生体质体能改善情况，科学评估营养改善计划的实施效果。

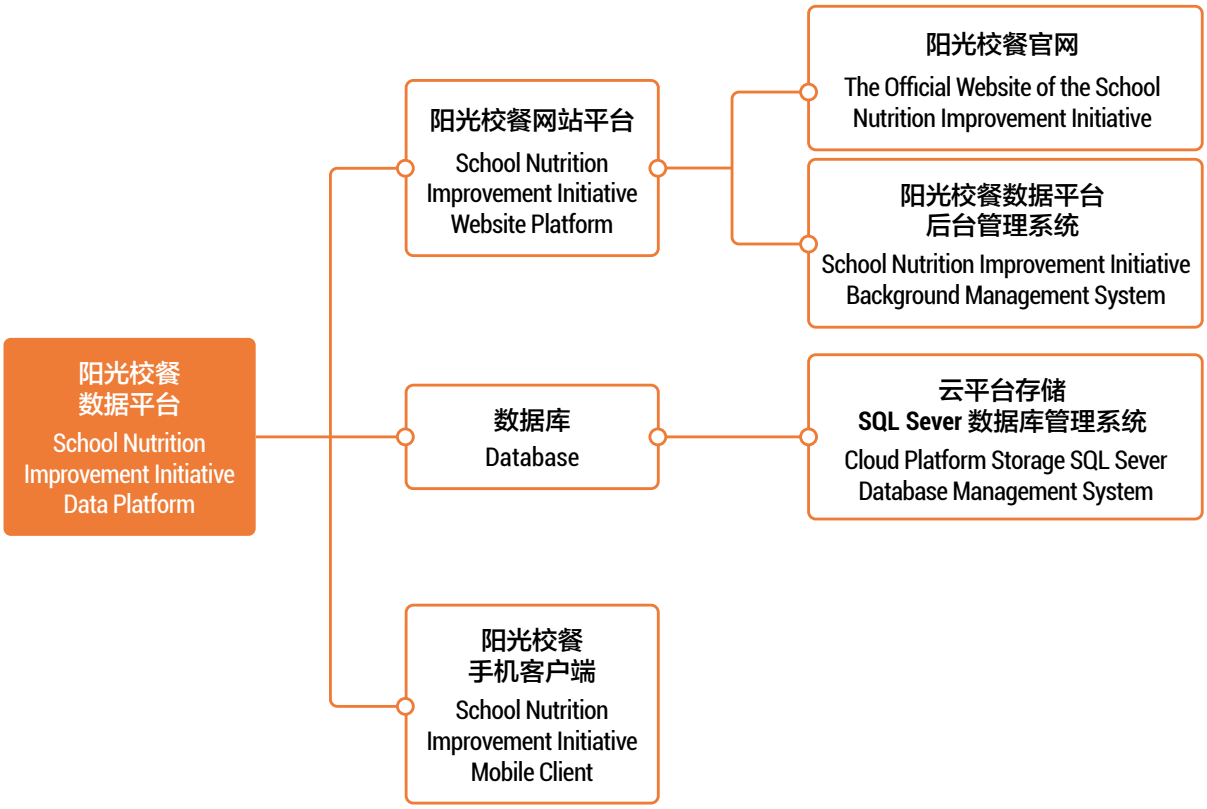
Relevant data are analyzed through the computing system of the database, including: make statistics on daily food purchase price of each school, and compare with the national wholesale price of agricultural products published by the Ministry of Agriculture to ensure the openness, transparency and reasonability of food purchase price; make statistics on the intakes of various foods and trace elements, and compare them with the national recommended intakes to ensure a reasonable and balanced diet structure; to track and compare the physical fitness improvement of students in each monitored county and scientifically evaluate the implementation effect of nutrition improvement plan.

阳光校餐网站平台

Website

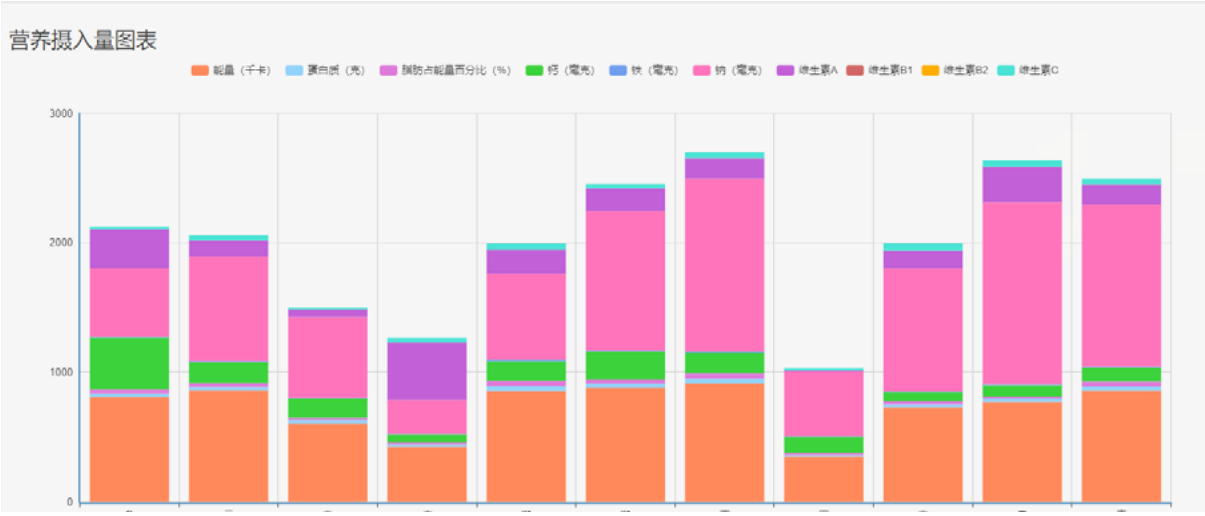
各校每日的供餐情况均通过阳光校餐官网对外展示。中国发展研究基金会通过后台管理系统对数据进行监测，以每天、每月和每个季度的频率将结果反馈至学校和县级、省级有关部门，并定期发布项目评估报告，为相关政策的制定与推进提供有力支持。

The daily food supply of each school is displayed on the official website of the School Nutrition Improvement Initiative. CDRF monitors the data through the background management system, and feeds back the results to schools, as well as county-level and provincial-level departments on a daily, monthly and quarterly basis, and issues project evaluation reports regularly to provide strong supports for the formulation and promotion of relevant policies.



▶▶▶ “阳光校餐”数据平台结构
"School Nutrition Improvement Initiative" Data Platform Structure

“阳光校餐”数据平台网页首页
Home Page of School Nutrition Improvement Initiative Data Platform



“阳光校餐”数据平台后台营养量摄入量统计图表
Nutrition Intake Statistics Chart in the Background of School Nutrition Improvement Initiative Data Platform

▶ ▶ ▶ “阳光校餐”数据平台后台各省上报情况
Reports from Provinces in the Background of School Nutrition Improvement Initiative Data Platform

“阳光校餐”数据平台实现了以下功能：

（1）监测营养改善计划执行情况；

（2）提供营养改善精准指导；

（3）及时反馈营养改善计划执行中的问题；

（4）检验政策实施效果；

（5）披露和交流营养改善计划实施信息；

（6）宣传营养改善计划政策及其实施成果。

The School Nutrition Improvement Initiative data platform has the following functions:

(1) monitor the implementation of the nutrition improvement plan;

(2) provide precise guidance for nutrition improvement;

(3) give timely feedback on problems in the implementation of the nutrition improvement plan;

(4) test the effect of policy implementation;

(5) disclose and exchange information on the implementation of the nutrition improvement plan;

(6) publicize nutrition improvement plan policies and implementation results.

▶ ▶ ▶ app 上报页面 App Report Page

效果评估

Effectiveness Evaluation

“阳光校餐数据平台”运行 3 年多来，在利用互联网信息技术手段加强营养改善计划实施的监督和管理、做好民生政策监督评估方面做了积极的尝试与探索，取得了有益的效果。中国财政科学研究院专家团队对“阳光校餐数据平台”的评估显示：

School Nutrition Improvement Initiative data platform run for more than three years. It has made active attempts and explorations in strengthening the supervision and management of nutrition improvement plan implementation and supervision and evaluation of livelihood policies by means of Internet information technology, and achieved beneficial results. The evaluation of School Nutrition Improvement Initiative data platform by the expert team of China Academy of Fiscal Sciences shows that:

一 . 推动校餐食材采购活动的规范管理和膳食补助资金的有效使用

1. Promote the Standardized Management of School Food Material Procurement and the Effective Use of Meal Subsidy Funds

“平台”在运行过程中，通过对监测县校餐食材采购价格和农业部同期发布的当地农产品市场价格进行对比分析，及时发现食材不正常采购价格，并向有关方面反馈相关信息，推动了监测地区营养午餐主要食材的采购价格逐渐规范、平稳。各县基本做到充分使用膳食补助资金，并建立了规范的结余资金管理机制。

The “Platform” monitors the school meals material purchasing price, compares it with local agricultural products market price released by the Ministry of Agriculture during the same period to analyze and find abnormal procurement in a timely manner, and gives feedback to relevant departments. It promotes standardization of the nutritional lunch program steadily and gradually. Every county has basically made full use of meal subsidy funds and established a standardized surplus fund management mechanism.

二．推动供餐模式优化，学校食堂供餐比例明显提高

2. Promote the Optimization of Meal Service Mode, School Canteens Significantly Increase the Proportion of Meals Served

“平台”通过数据分析和信息披露等办法，宣传学校食堂供应午餐方式的优越性，推动了共餐模式的积极转变。在“平台”开始监测的初期，2016 年实行学校供应午餐的比例仅为为 69.3%，但截止到 2018 年，监测县中有 81.3% 的学校实现了食堂供午餐，比 2016 年提高了 12 个百分点；另有 15.2% 的监测学校采取食堂供早餐模式，只有 3% 的学校仍采取课间加餐模式。

By means of data analysis and information disclosure, the “Platform” publicizes the superiority of the school lunch mode and promotes the positive transformation of the co-dining mode. At the beginning of platform's monitoring in 2016, only 69.3% of schools provided lunch, but by 2018, 81.3% of schools in the monitored counties provided lunch in their canteens, an increase of 12%. A further 15.2% of schools monitored had breakfast in their canteens, while only 3% still had extra meals between classes.

三．提供校餐营养分析指导，促进校餐质量提升

3. Provide Nutritional Analysis Guidance for School Meals to Improve the Quality

“平台”对每天校餐上传数据进行分析和反馈，为学校提供了改进校餐营养成分的依据，为学校及时改进校餐的营养问题提供了持续不断的帮助，这在很大程度上有助于解决贫困、边远地区缺少营养学专业人士的困难。试点学校的校餐管理人员可以通过手机 APP 了解本校校餐的营养成分分析结果，及时采取措施改进膳食成分，提高营养水平。

The Platform analyzes the uploaded data of school meals every day and gives feedbacks, provides the basis for schools to improve the nutrition content of school meals, and keeps giving help for schools to improve the nutrition level in a timely manner, which to a large extent helps solve the problems of lack of nutrition professionals in poor and remote areas. The school meal management staff of the pilot schools can learn the nutritional analysis results through the mobile APP, and take measures to improve the dietary composition and improve the nutritional level.

四．客观验证了营养改善计划的政策效果

4. Objectively Verify the Policy Effect of the Nutrition Improvement Plan

阳光校餐数据平台根据所收集的 63 个国家营养改善计划试点县 192 万受益学生 2012 年 –2017 年身高数据进行分析，结果表明，计划实施至今贫困地区农村学生的体质有了明显改善。2012–2017 年间，贫困农村儿童 7–12 岁矮小与偏矮比例逐年下降，偏矮比例由 2012 年的 44.6% 下降到 2016 年的 19.6%，矮小比例由 2012 年的 11.7% 下降到 2016 年的 4.8%。

According to the height data of 1.92 million students from 2012 to 2017 collected in 63 pilot counties of the national nutrition improvement plan, the results show that the health level of students in poor areas has improved significantly since the implementation of the plan. Between 2012 and 2017, the ratio of short and dwarf children among poor rural children aged 7-12 years decreased year by year, with the former dropping from 44.6% in 2012 to 19.6% in 2016, and the latter dropping from 11.7% in 2012 to 4.8% in 2016.

五．开拓信息交流渠道，提高了营养改善计划实施情况的透明度

5. Open Up Channels for Information Exchange and Improve the Transparency of the Implementation of the Nutrition Improvement Program

中国发展研究基金会建立的阳光校餐数据平台，以第三方的身份，采用互联网和大数据技术，提供了具体详实的数据，及时的反馈和公开的披露渠道，大大改善了营养改善计划实施情况的透明度，有利于社会各界对营养改善计划实施情况的了解和监督。

CDRF, as a third party, established the School Nutrition Improvement Initiative data platform, using the Internet and big data technology, provides specific detailed data. By relying on timely feedback and its public disclosure of channels, the platform has greatly improved transparency of the nutrition improvement plan implementation and makes it convenient for the public to learn about and supervise the implementation of the plan.

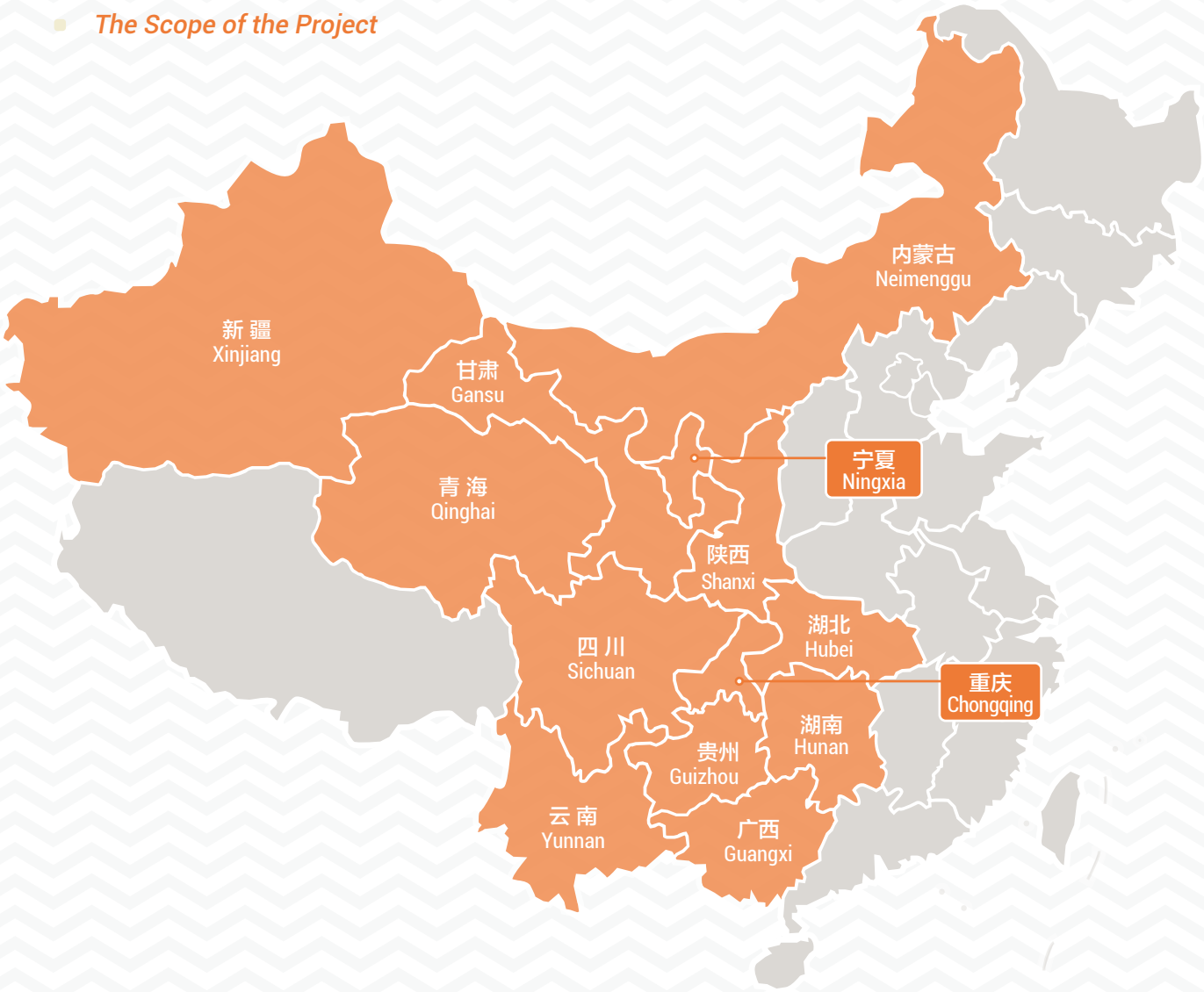
3.

Experience
of Pilot Counties

试点县经验政策

项目覆盖范围

The Scope of the Project



重庆市石柱县“4+X”供餐模式

“4+X" Catering Mode in Shizhu County, Chongqing

2012 年起，重庆市石柱县全面开展农村义务教育学生营养改善计划。全县采用“4+X”供餐模式（补贴 4 元，学生缴纳 1-3 元不等），为学生们提供“两荤两素一汤”的餐饮。

Since 2012, the nutrition improvement program for rural students receiving compulsory education has been implemented in Shizhu County, Chongqing. The county adopts the “4+X" meal mode (subsidy of 4 yuan, students pay 1-3 yuan) to provide students with “two meat dishes, two vegetable dishes and one soup".

2015 年至今，“阳光校餐”数据平台已对石柱县 93 所学校进行了近四年、不间断的监测。覆盖农村义务教育阶段学生 29,335 人。截至目前，石柱县共上报校餐相关数据 8 万余条、校餐照片 32 万余张。参考卫健委全国身高参考标准可以看出，2012 年以来，石柱县孩子各年龄段平均身高正稳步提升，逐年接近全国同龄儿童标准。

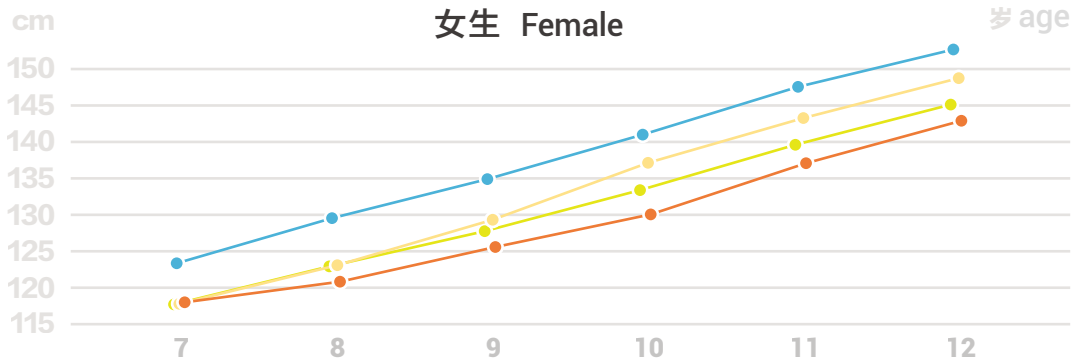
Since 2015, School Nutrition Improvement Initiative data platform has been continuously monitoring 93 schools in Shizhu County for nearly four years, covering 29,335 rural students receiving compulsory education. Up to now, Shizhu County has reported more than 80,000 related data of school meals and uploaded more than 320,000 photos. It can be seen from the stature reference standard of the National Health Commission that since 2012, the average height of children of all ages in Shizhu County has been steadily increasing, approaching the national stature standard of children of the same age year by year.

石柱县中益乡小学食堂 52 岁的炊事员焦大翠正在备菜
Jiao Dacui, a 52-year-old Cook in the Primary School Canteen in Zhongyi Township, Shizhu County, Prepares Food

石柱县农村小学学生身高变化(2012-2017)
Height Changes of the Students in Rural Primary Schools in Shizhu County

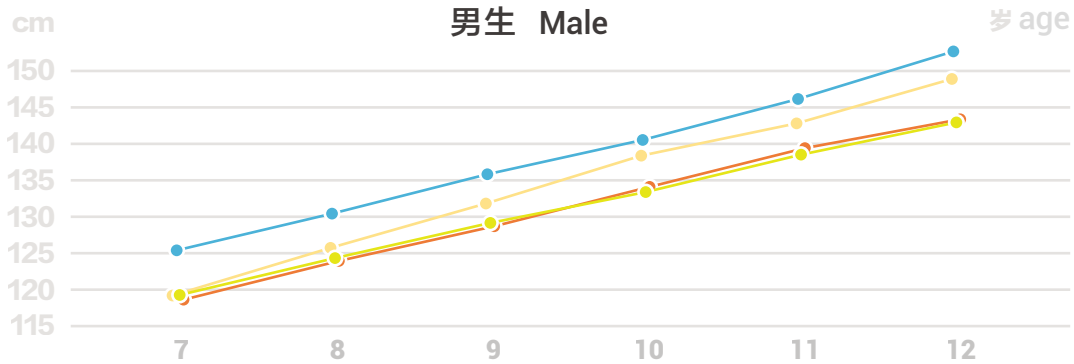
- 2012年石柱县平均身高 Average Height in Shizhu County in 2012
- 2017全国标准身高 National Standard Height in 2017
- 2017全国偏矮身高 National Short Height in 2017
- 2017年石柱县平均身高 Average Height in Shizhu County in 2017

女生 Female



	7	8	9	10	11	12
2012年石柱县平均身高	117.98	120.87	125.33	130.01	136.81	143.38
2017全国标准身高	124.13	129.34	134.91	141.18	147.36	152.41
2017年石柱县平均身高	119.00	123.32	129.77	136.98	143.42	149.10
2017全国偏矮身高	118.21	123.09	128.11	133.78	139.72	145.26

男生 Male



	7	8	9	10	11	12
2012年石柱县平均身高	118.31	123.04	128.97	134.31	139.42	143.85
2017全国标准身高	125.48	130.72	135.81	140.76	146.01	152.18
2017年石柱县平均身高	119.62	125.97	132.00	138.68	143.08	148.47
2017全国偏矮身高	119.49	124.53	129.27	133.77	138.20	143.33

资料来源：重庆市石柱县学生体检数据，中华人民共和国国家卫生健康委员会：7 岁 ~18 岁儿童青少年身高发育等级评价

Source: Physical examination data of Students in Shizhu county, Chongqing. National Health Commission of People's Republic of China: standard for height level classification among children and adolescents aged 7-18 years.

宁夏回族自治区“两个加法”模式

The "Two Additions" Mode of Ningxia Hui Autonomous Region

截至 2018 年 10 月底，宁夏回族自治区已在 11 个县区施行了营养改善计划，在具体实施中立足做好两个加法：一是国家试点加地方试点，覆盖群体更大；二是早餐加午餐，营养更丰富。营养改善计划在宁夏回族自治区共覆盖 1216 所义务教育学校，惠及 26.6 万名学生。宁夏回族自治区疾控中心对参与营养改善计划的 16 万名中小学生进行的营养健康监测显示：2014 年至 2017 年，男女生各年龄段平均身高分别增加了 0.72 厘米和 0.81 厘米，平均体重分别增加了 0.53 公斤和 0.33 公斤，男女生贫血患病率分别下降了 1.42% 和 2.84%。（宁夏回族自治区教育厅）

By the end of October 2018, the Ningxia Hui Autonomous Region had implemented the nutrition improvement plan in 11 counties and districts. In the specific implementation of the plan, it focuses on two additions: one is the national pilot plan plus local pilot plan, covering a larger group; the second is breakfast plus lunch for improving the nutritional status of students. The Nutrition Improvement Program covers 1,216 compulsory education schools in Ningxia Hui Autonomous Region, benefiting 266,000 students. According to the results of the nutritional health monitoring project conducted by Ningxia Hui Autonomous Region Center for Disease Control and Prevention for 160,000 primary and secondary school students participating in the Nutrition Improvement Program, from 2014 to 2017, the average height of male and female students increased by 0.72 cm and 0.81 cm, respectively, the average weights of them increased by 0.53 kg and 0.33 kg, respectively, the prevalence of anemia among boys and girls decreased by 1.42% and 2.84%, respectively. (Ningxia Hui Autonomous Region Education Department)

“阳光校餐”试点县儿童吃午餐
Children in School Nutrition Improvement Initiative Pilot County Eat Lunch

广西壮族自治区“专项监管”模式

Special Supervision Model in Guangxi Zhuang Autonomous Region

为了项目的高效实施，自 2012 年起，广西每年均组织开展营养改善计划专项督查。在现场反馈督查情况的基础上，自治区学生营养办逐一向试点县书面反馈督查整改意见，并向自治区人民政府书面报告督查情况。自治区教育厅还将营养改善计划纳入开学检查和绩效考评检查范围，各级食品药品监管部门每年与教育部门联合对学校食品安全开展专项督查。

In order to implement the project efficiently, since 2012, Guangxi has organized special inspections of the nutrition improvement plan every year. On the basis of on-site feedback, Guangxi Student Nutrition Office has given written feedback to the pilot counties on the inspection and made suggestions on rectification, and reported the inspection results to the Autonomous Region People's Government in writing. The Department of Education of Guangxi has also included the nutrition improvement plan in the scope of school opening inspection and performance evaluation. Food and drug regulatory departments at all levels and education departments jointly carried out special inspections on school food security every year.

“阳光校餐”试点学校营养食谱
Nutritional Recipes of Pilot School

贵州省铜仁市“云监管”模式

"Cloud Supervision" Model of Tongren City, Guizhou Province

为使营养改善计划工作管理更加实效、精准，铜仁市每年支付 200 余万元，引入学生营养餐智慧云综合服务管理平台，对学校食堂进行信息化监管。市、县、学区办（中心校、教管中心）管理人员实时可通过电脑或手机 APP 对学校食堂进行网上巡察，把住了资金和食品安全关。

In order to make the management of nutrition improvement plan more effective and accurate, the government of Tongren City pays more than 2 million yuan annually to introduce the intelligent cloud comprehensive service platform for management of student nutritional meal and supervision over school canteens. The platform allows administrators of city, county and school district offices (central schools and education centers) to inspect school canteens online in real time by using computer or mobile APP, so as to ensure rational use of funds and food safety.

贵州“阳光校餐”试点校孩子吃午餐
Children in Guizhou Province are Having Lunch

湖北省鹤峰县“免费午餐”模式

"Free Lunch" Model in Hefeng County, Hubei Province

鹤峰县将国家营养改善计划和免费午餐项目[21]有机整合，为全县43所农村学校免费提供营养午餐与早餐，全部采用食堂供餐，被媒体誉为全国独有的免费午餐“鹤峰模式”。该县制定了完善的学生食堂管理制度，设立食堂“五员”并组建工作专班，层层签订责任状，全方位筑起制度“防火墙”。此外，该县项目学校的操作间与餐厅均安装有视频监控设备，并可进行远程访问、实时监控，大大增加了“免费午餐”实施的透明度。

Hefeng County organically integrates the National Nutrition Improvement Plan and the Free Lunch Project to provide free nutritional lunch and breakfast for 43 rural schools in the county. All of them use dining halls to provide meals to students. It is praised by the media as the unique "Hefeng Model" for providing free lunch to students in the country. The county has formulated a sound student canteen management system, set up a "five-member" special work group, signed responsibility agreements at all levels, and built a system of "firewall" in an all-round way. In addition, the operating rooms and restaurants of project schools are equipped with video surveillance equipment, which can achieve remote access and real-time monitoring, greatly increasing the transparency of the implementation of the project.

[21] 2011年，鹤峰县政府与中国社会福利基金会签订“免费午餐计划”合作协议，采取“1+2”模式，即政府出1元，中国社会福利基金会免费午餐基金出2元，为全县43所农村学校的4381名学生提供免费午餐。

4.

Evaluation Research

评估研究

“阳光校餐”数据平台客观、全面、真实、准确地反映了最基层的营养改善计划执行情况与效果。这些数据结果形成了政策评估报告并产生了广泛的社会影响。主要结论如下：

School Nutrition Improvement Initiative data platform objectively, comprehensively, truly and accurately reflects the implementation and effect of the nutrition improvement plan at the basic level. These data results have formed policy assessment reports and made extensive social impacts. The main conclusions are as follows:

大多数农村义务教育学校都建设了食堂

Most Rural Compulsory Education Schools Have Built Canteens

2017 年，在中央政府的财政支持下，贫困地区 98% 的农村义务教育学校都建成或翻新了学校食堂并投入使用。这是全面实施食堂供餐模式的基础。

In 2017, with the financial support of the central government, 98% of rural compulsory education schools in poverty-stricken areas built or renovated school canteens and put them into use. This is the basis for the full implementation of the canteen dining mode.

食堂供午餐已成为营养改善计划的主要落实模式

Supplying Lunch in the Canteen Has Become the Main Implementation Mode of the Nutrition Improvement Plan

营养改善计划主要有三种落实模式：食堂供早餐、食堂供午餐与课间加餐，其中供应午餐是最有效的营养改善模式。截至 2018 年 6 月，基金会监测的 100 个县中，有 81% 的学校实现了食堂供午餐模式，相比于 2015 年 10 月增加 12.3%；15.2% 的试点学校提供早餐，只有 3% 的学校为学生发放课间加餐。

There are three main implementation modes of the nutrition improvement plan: breakfast in the canteen, lunch in the canteen and extra meals during the break. Lunch is the most effective nutrition improvement mode. As of June 2018, 81% of the 100 counties monitored by the CDRF had realized the canteen lunch mode, an increase of 12.3% compared with that in October 2015; 15.2% of the pilot schools have provided breakfast, and only 3% of the schools offered extra meals between classes.

营养成分 *Nutritional Components*	国家标准 *National Standard*	午餐 *Lunch*	早餐 *Breakfast*	零食 *Snacks*
能量 *Energy*	810	866.8	450.09	298.2
蛋白质 *Protein*	28	28.9	21.33	12.04
脂肪 *Fat*	30	29.8	21.37	10.14
钙 *Calcium*	400	193.7	151.4	182.12
铁 *Iron*	5.40	10.47	4.6	3.76
钠 *Sodium*	530	864.09	405	402.61
维生素 *Vitamin A*	300	212.82	146.47	64.99
维生素 *Vitamin B1*	0.6	0.78	0.34	0.2
维生素 *Vitamin B2*	0.6	0.78	0.41	0.28
维生素 *Vitamin C*	20	25.86	9.51	1.44

试点县不同供餐模式的营养供给量 *Nutritional Supply of Different Feeding Modes in Pilot Counties*

绝大多数县都充分利用了国家的营养膳食补助，并建立了有效的资金管理机制

Most Counties Have Fully Utilized the Government's Nutritional Diet Subsidies and Established Effective Fund Management Mechanisms

中央财政为每位学生每天提供 4 元膳食补助，以保障贫困地区学生在校期间的基本营养需求。试点县和学校可以将每餐的价格控制在 4 元左右。考虑到采购价格的上涨，目前已有 11 个试点县在地方财政的支持下将餐补标准上调了1–1.5 元(0.15–0.25 美元)。

The central government provides a daily subsidy of 4 yuan per student to ensure the basic nutritional needs of students in poverty-stricken areas during school. Pilot counties and schools can control the price of each meal to around 4 yuan. Considering the increase in purchase prices, 11 pilot counties have raised the subsidy by 1-1.5 yuan (0.15-0.25 USD) with the support of local governments.

学生的营养健康得到了有效保障

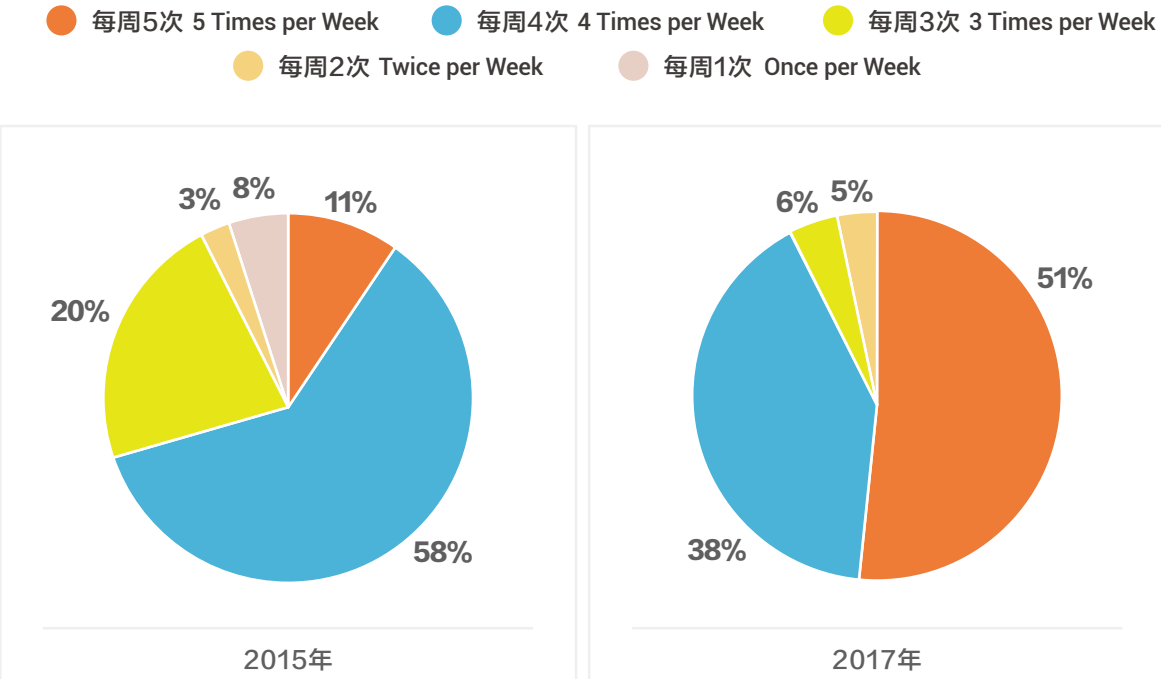
The Nutrition and Health of Students Have Been Effectively Guaranteed

截至 2018 年 6 月，从能量、蛋白质、脂肪和至少两种微量元素的摄入量来看，61% 的学校营养餐能够满足学生的基本营养需求，较 2015 年底的 34% 有明显提高。2015 年，只有不足 20% 的试点学校有能力每天提供肉类伙食。到 2017 年末，已经有超过 80% 的试点学校为学生提供一周三次的肉类伙食，有 51% 的学校更是达到了一周五天的肉食供应水平。

As of June 2018, from the intake of energy, protein, fat and at least two trace elements, 61% of school nutrition meals can meet the basic nutritional needs of students, which is significantly higher than the 34% at the end of 2015. In 2015, less than 20% of pilot schools were able to provide meat meals daily. By the end of 2017, more than 80% of the pilot schools had provided students with meat meals three times a week, and 51% of the schools had provided students with meat meals five days a week.

学校供应肉类伙食频率的变化情况

Changes in the Frequency of Meat Meals Served by Schools



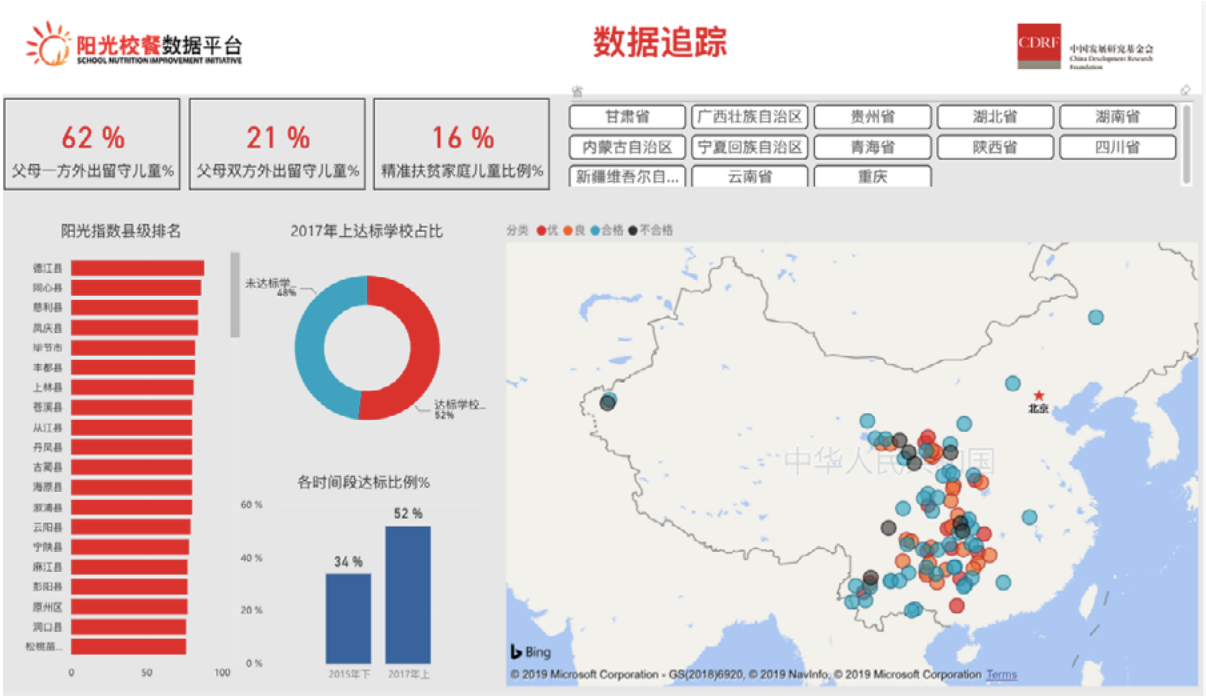
大数据平台在政策实施方面发挥了精准监督、精准指导的作用

The Data Platform Has Played a Role of Precise Supervision and Precise Guidance Role in Policy Implementation

大数据平台根据试点学校教师上传的数据每日进行实时反馈，反馈内容包括：资金的使用情况、营养摄入情况、食品采购价格与全国平均水平的对比情况等。在对数据进行分析评估的基础上，“阳光校餐”项目组每月向县级教育局反馈营养改善计划的实施情况，并针对各试点县存在的问题提出相关建议。此外，大数据平台信息向各试点县开放，有助于他们进行横向比较。

The data platform provides daily real-time feedback based on the data uploaded by the teachers of pilot schools. The feedback includes: the use of funds, nutrient intake, and the comparison between the food purchase price and the national average. On the basis of analyzing and evaluating the data, the program team reports the implementation of the nutrition improvement plan to the county education bureau every month, and makes suggestions on solving the problems of pilot counties. In addition, big data platform information is open to pilot counties, helping them to make horizontal comparisons.

阳光校餐数据平台
School Nutrition Improvement Initiative data platform



阳光校餐数据平台
School Nutrition Improvement Initiative data platform

学生的身体条件得到了明显改善

The Physical Conditions of the Students Have Been Significantly Improved

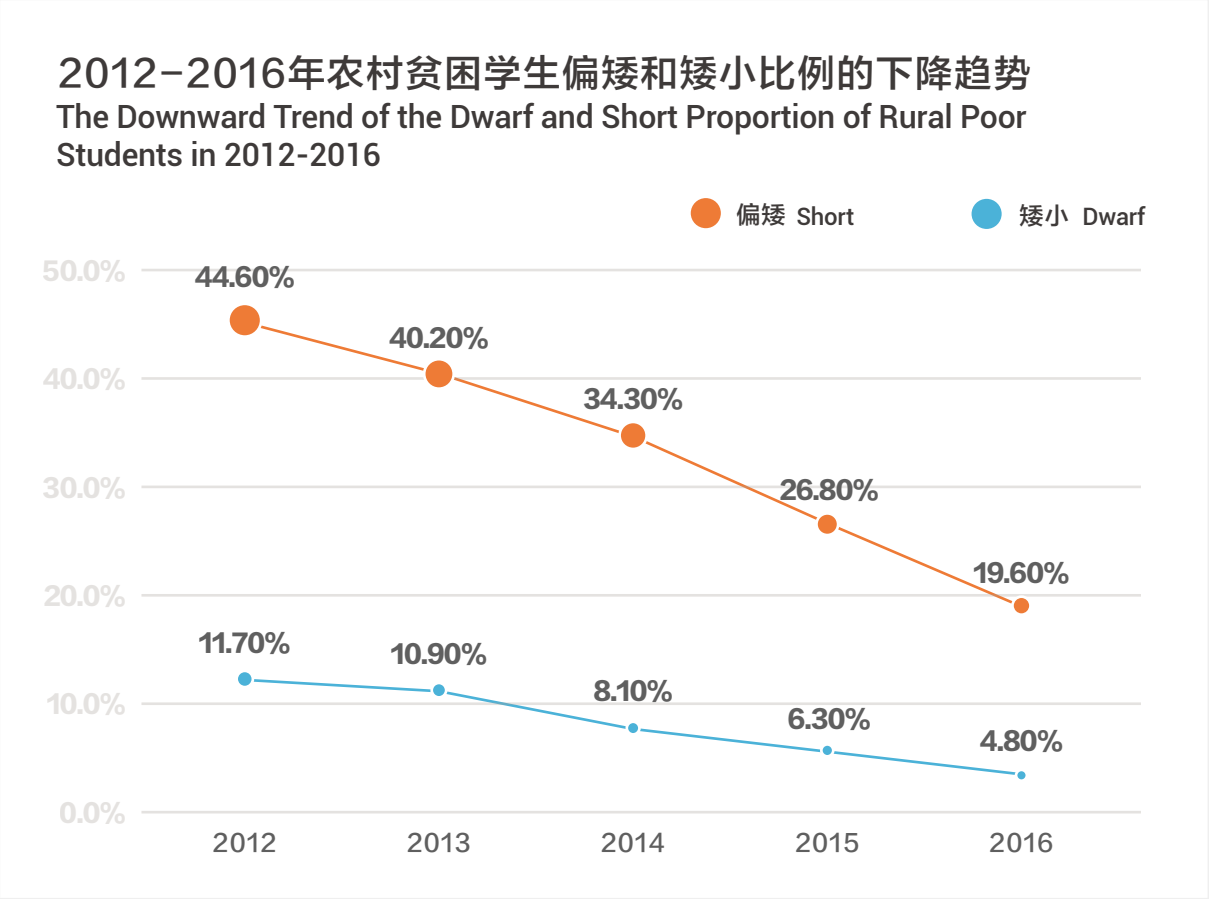
身高是衡量学生长期营养状态的一项有效指标[22]。基于 63 个试点县 192 万受益学生的体质监测数据（身高）的统计分析结果表明，在实施营养改善计划后，各年龄组学生的平均身高均有所增加。2016 年，11 岁学生的平均身高比 2012 年的同龄学生平均身高增长约 6 厘米。

Height is an effective indicator of a student's long-term nutritional status. Based on the physical data (heights) of 1.92 million beneficiary students collected in 63 pilot counties, the average height of students of all age groups increased after the implementation of the nutrition improvement plan. In 2016, the average height of 11-year-old students increased by about 6 cm compared with that of students of the same age in 2012.

22 联合国卫生组织报告

根据国家卫生健康委员会发布的《7岁～18岁儿童青少年身高发育等级评价标准》，身高低于本年龄平均水平1个标准差（SD）的儿童被定义为“偏矮”，身高低于本年龄平均水平2个标准差的儿童被定义为“矮小”。在7–12岁农村贫困儿童中，“偏矮”的比例从2012年的44.6%下降至2016年的19.6%，“矮小”的比例从2012年的11.7%下降至2016年的4.8%。

Based on the “Standard for Height Level Classification among Children and Adolescents Aged 7-18 Years” issued by the National Health Commission of China, a child is defined as being “short” if his/her height falls below the median level for his/her age by 1SD, and is defined as a “dwarf” if his/her height is below the median for his/her age by 2SD. Among 7-12 year old poor, rural children, the proportion of “short” has dropped from 44.6% in 2012 to 19.6% in 2016, and that of “dwarf” has dropped from 11.7% in 2012 to 4.8% in 2016.

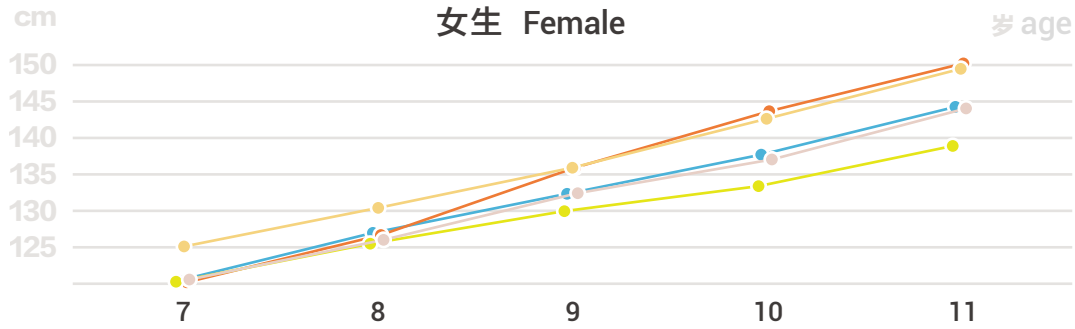


营养改善计划受益学生身高变化纵向追踪研究

Height Change of the Students Who Benefit from the National Nutrition Improvement Plan by a Longitudinal Follow-up Study

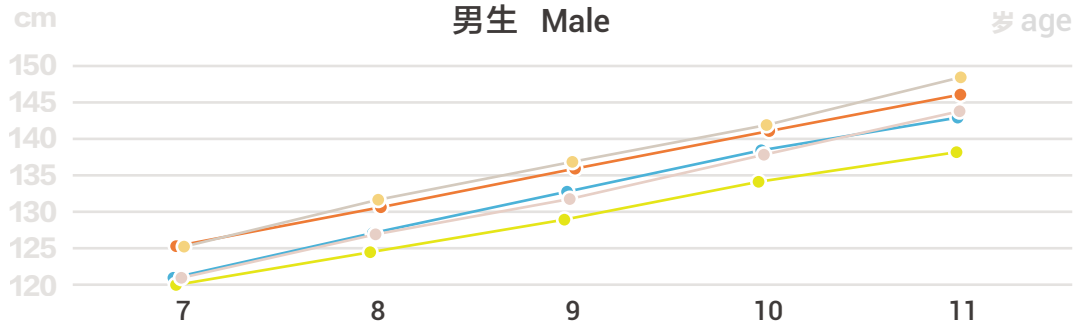
2010年标准 Standard in 2010
2012年平均 Average Height in 2012
2012年追踪对象 Average Height of Students Enrolled in 2012
2014年标准 Standard in 2014
2016年平均 Average Height in 2016

女生 Female



	7	8	9	10	11
2010年标准 Standard in 2010	120.30	126.70	136.00	143.70	150.10
2012年追踪对象 Average Height of Students Enrolled in 2012	120.68	126.93	132.32	137.71	144.08
2012年平均 Average Height in 2012	120.58	125.59	129.90	133.65	138.72
2014年标准 Standard in 2014	125.10	130.50	136.30	142.60	149.30
2016年平均 Average Height in 2016	121.07	126.44	132.83	137.54	144.46

男生 Male



	7	8	9	10	11
2010年标准 Standard in 2010	125.50	130.70	136.80	140.90	146.20
2012年追踪对象 Average Height of Students Enrolled in 2012	121.02	126.85	132.97	138.80	143.73
2012年平均 Average Height in 2012	120.42	124.48	129.36	134.08	138.31
2014年标准 Standard in 2014	126.60	132.00	137.20	142.10	148.10
2016年平均 Average Height in 2016	120.76	126.76	132.00	138.11	144.02

实证研究

Empirical Research

国际上已有多项研究表明，营养情况与儿童身高发展直接相关。世界粮食计划署和世界银行以在布基纳法索、老挝和乌干达开展的三个独立研究为对象，评估了学校供餐项目对身高发展的影响。结果显示，老挝 3–10 岁儿童的年龄别身高和年龄别体重均有明显改善 。

The results of a number of studies have show that nutritional status is directly related to children's height. The World Food Programme and the World Bank assessed the impacts of school feeding programs on anthropometric outcomes in three independent studies in Burkina Faso, Laos, and Uganda. Significant improvements were reported in both height-for-age and weight-for-age among children aged 3-10 years in Lao.

在低收入国家和中低收入国家，对校餐进行的基于元分析的三方控制前后对照研究展现了明显的身高增益（1.43 厘米）效应——比对照组高大约三分之一。儿童身高除了受营养摄入量的影响外，还与家庭背景（经济情况、家庭规模）和家长教育有关。

A meta-analysis of three controlled before-and-after studies of school meals in low income countries and medium and low-income countries found a significant effect on height gain (1.43 cm) — approximately one-third more than that in control groups. In addition to the huge impact of nutrient intake, family background (economic status, family size) and parental education also have an impact on children's heights.

为有效检验营养改善计划的实施效果，中国发展研究基金会开展了营养改善计划对农村贫困地区义务教育学校学生身高影响的追踪研究。

To effectively test the effectiveness of the nutrition improvement program, CDRF conducted a follow-up study on the impacts of the nutrition improvement program on the heights of students receiving compulsory education in poor rural areas.

入学年份和学生年龄

Year of Enrollment and Age of Students

	2010	2011	2012	2013	2014	2015	2016
2010 年入学 *Admitted in 2010*	7	8	9	10	11	12	13
2011 年入学 *Admitted in 2011*		7	8	9	10	11	12
2012 年入学 *Admitted in 2012*			7	8	9	10	11

PSM 和 DID 方法的研究结果表明：

（1）国家营养改善计划对学生身高起到了明显的促进作用。在控制当地经济情况与家庭社会经济情况的前提下，参与营养改善计划的学生比不参与营养改善计划的学生高出 1.3 厘米 –1.5 厘米。

（2）学生吃营养餐的时间越长（即干预措施介入的越早），学生就会长得越高。因此，有必要对农村地区的学生进行长期营养干预。

（3）食堂供应午餐的学生身高比吃课间加餐的学生身高高出 0.82 厘米。食堂供早餐和吃课间加餐的学生身高之间没有明显差距，因此，食堂供应午餐是改善学生身高最有效的模式。

The results of the PSM and DID methods showed that:

(1) The National Nutrition Improvement Program has a significant impact on the height of the students. By controlling the factors of local economic conditions, social status and financial conditions of family, students who ate school meal are 1.3cm-1.5cm higher than those students who do not eat school meal.

(2) The earlier the treatment is given, the better the impact on the children's physical improvement. Therefore, it is necessary to conduct long-term nutritional interventions for students in rural areas.

(3) The average height of the students who ate canteen-prepared lunch was 0.82 cm higher than those who ate extra meals during the break. There was no significant difference in the average heights between the students who ate breakfast and those who ate snacks, so canteen-prepared lunch is the most effective feeding model to improve student height.

调研和会议

Fieldwork and Conference

2016 年 4 月，时任国务院副总理的刘延东来到同心、中宁等偏远贫困地区农村中小学，实地考察营养改善计划实施情况，与师生共进营养餐，并参加农村义务教育学生营养改善计划座谈会，探讨贫困地区学生营养改善工作。刘延东总理在座谈会中指出，要充分利用“阳光校餐数据平台”等第三方平台的监督评估作用，真正把学生营养改善计划打造成阳光工程、放心工程。

In April 2016, Liu Yandong, the Vice Premier of the State Council, went to rural primary and secondary schools in Tongxin county and Zhongning County, investigated the implementation of the Nutrition Improvement Plan, and had school meals together with teachers and students. She attended a symposium on nutrition improvement for rural students receiving compulsory education, and talked about the improvements of students' nutrition in poor areas. Liu pointed out that it was necessary to make full use of the supervision and evaluation functions of third-party platforms including the School Nutrition Improvement Initiative data platform, to truly build the Nutrition Improvement Plan into a sunshine project.

李伟与贵州省松桃县妙隘乡完小的孩子们共进午餐
Li Wei Has Lunch with Young Children of Miaoai Township, Songtao County, Guizhou Province.

2016 年 9 月 22 日，国务院发展研究中心李伟主任一行考察基金会在贵州省松桃县开展的儿童发展项目。李伟主任一行与妙隘乡完小的孩子们共进午餐，并来到盘石村山村幼儿园和孩子们一起活动，最后在马台村教学点观摩了西部小学信息化教育课堂。卢迈秘书长陪同考察，并介绍了基金会在贵州的阳光校餐、山村幼儿园及西部小学信息化项目的进展情况。

On September 22, 2016, a delegation headed by President Li Wei of the Development Research Center of the State Council visited the Children's Development Project of the Foundation in Songtao County, Guizhou Province. They had lunch with the children of Miaoai Township, and went to the kindergarten of Panshi Village to participate in activities with the children. Finally, they observed the IT education classroom of the western primary schools at the teaching point of Matai Village. Secretary-General Lu Mai accompanied the delegation and introduced the progress of the Foundation's School Nutrition Improvement Initiative, Village Kindergarten and Western Elementary School Information Project in Guizhou.

2018 年 6 月 28 日，农村义务教育学生营养改善计划现场推进会在贵州惠水县召开，此次会议对农村义务教育学生营养改善计划实施以来的做法、经验进行了交流和总结，并部署推动下一阶段实施的工作。会议还强调要认真贯彻和落实党中央、国务院关于农村义务教育学生营养改善计划的重大决策，切实改善贫困地区学生营养状况和身体素质。中国发展研究基金会副秘书长方晋参会并作交流发言。

On June 28, 2018, the on-site promotion meeting for the nutrition improvement plan for rural students receiving compulsory education was held in Huishui County, Guizhou Province. The participants to the meeting exchanged and summarized the practices of and experience in implementation of the plan and arranged the work to be carried out in the next phase. The meeting also stressed the need to conscientiously implement the major decisions of the Party Central Committee and the State Council on the nutrition improvement plan for rural students receiving compulsory education, and effectively improve the nutritional status and physical conditions of students in poverty-stricken areas. Fang Jin, Deputy Secretary General of CDRF, attended the meeting and made a speech.

方晋参加农村义务教育学生营养改善计划现场推进会

Fang Jin Participated in the On-site Promotion Meeting of the Nutrition Improvement Plan for Rural Students Receiving Compulsory Education

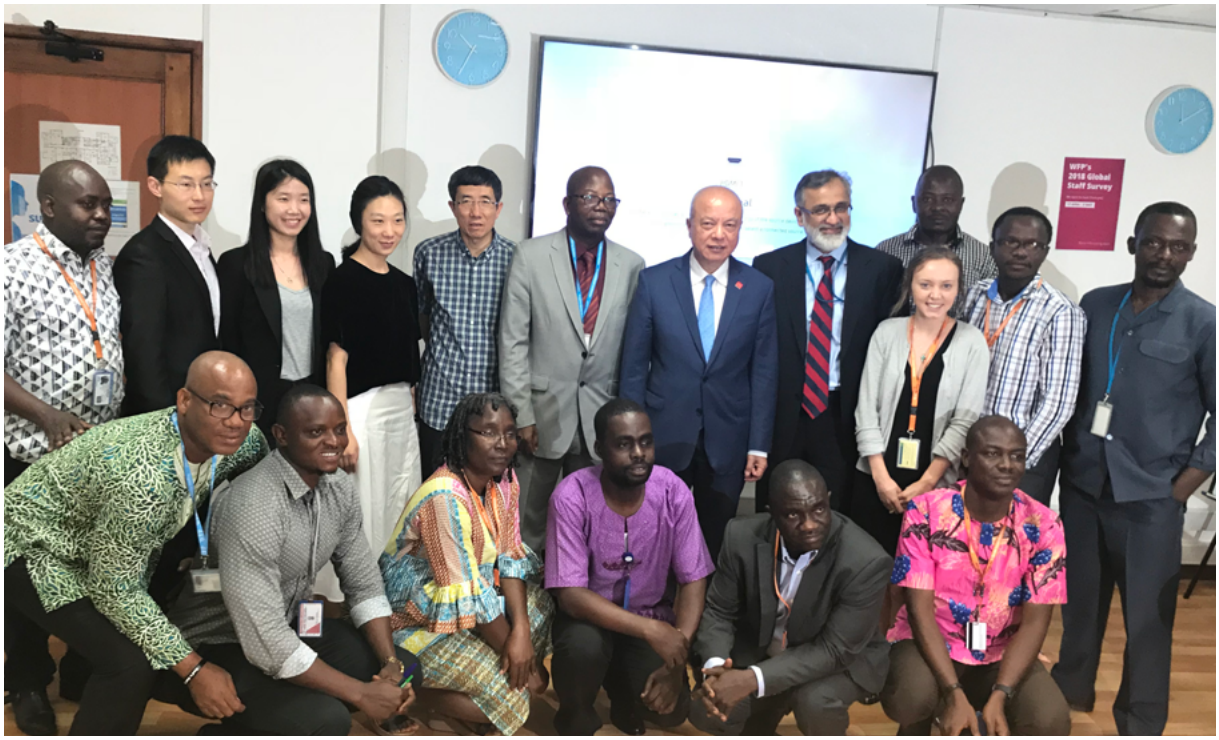
5.

International Communication

国际交流

利比里亚调研

Research on Liberia



调研团队与世界粮食计划署合影
The Research Team Takes a Photo with the Staff of the World Food Program

鉴于中国在学校供餐方面的探索模式和取得的突出成就，利比里亚总统与我国驻利比里亚大使馆邀请中国发展研究基金会为利比里亚可持续发展目标落实方案“零饥饿－家庭种植－学校供餐”计划提供援助。

2018 年 6 月 17 日至 20 日，由基金会卢迈副理事长兼秘书长带队，中国农业大学南南合作学院李小云院长、基金会儿童发展中心副主任赵晨、儿童发展中心项目人员许憬秋和卜凡共 5 人赴利比里亚开展“零饥饿－家庭

In view of China's exploration model and outstanding achievements in school feeding, the President of Liberia and the Chinese Embassy in Liberia invited the China Development Research Foundation to implement the “Zero Hunger-Family Planting-School Nutrition Improvement Initiative” program for achieving the Liberia Sustainable Development Goals.

In June 17-20, 2018, led by CDRF Deputy Chairman and Secretary General Lu Mai, Mr. Li Xiaoyun, Dean of the South-South Cooperation College of China Agricultural University, and Zhao Chen, Deputy Director of the Foundation Child Development Center, and the Children Development Center project staff Xu Jingqiu and Bu Fan went to Liberia to conduct

社区中心学校学生午餐（烤面包和菠萝）
Community Center School Student Lunch (Toast and Pineapple)

调研团队与利比里亚教育部官员合影
The Research Team Takes a Photo with Officials of the Liberian Ministry of Education

种植－学校供餐”项目前期调研。调研期间与在利比里亚开展学校供餐项目的国际组织开展座谈会，学习项目经验并开展合作；拜会利比里亚教育部、农业部、财政部等相关负责人，了解项目开展情况、效果和需求；与中资企业座谈，了解在利比里亚的学校设施援建项目、打井项目及基础设施建设项目，探索合作的可能性；开展对当地学校的实地调研，了解当地具体情况。

a preliminary survey of “Zero Hunger-Family Planting-School Nutrition Improvement Initiative” project. During the survey, symposiums were held with international organizations that conducted school feeding-in Liberia to learn project experience and carry out cooperation. Also, the delegation met with relevant leaders of the Ministry of Education, Ministry of Agriculture, and Ministry of Finance of Liberia to learn about the development, effects and needs of the project, discussed with Chinese companies in Liberia on school facilities, drilling projects and infrastructure construction projects in the country, sought for cooperation, and conducted on-the-spot investigations on local schools to learn about local conditions.

利比里亚总统夫人代表团到访基金会

The Delegation Headed by the Wife of the President of Liberia Visited the Foundation

2018 年 9 月 2 日下午，国务院发展研究中心与中国发展研究基金会领导会见了来华参加中非合作论坛北京峰会的利比里亚总统夫人克拉·维阿代表团。双方就中国和利比里亚的儿童发展，尤其是学校供餐方面的合作进行了交流探讨。利比里亚总统夫人克拉·维阿（Clar M. Weah）对中国支持利比里亚儿童营养问题表达了感谢，并表示利比里亚应多向中国学习经济社会发展的成功经验，积极开展合作，共同促进两国实现繁荣。会后，代表团参观了基金会数据中心，观看儿童发展中心的“阳光校餐”数据平台展示。

On the afternoon of September 2, 2018, the leaders of the Development Research Center of the State Council and China Development Research Foundation met with the delegation headed by Clar M. Weah, the wife of the President of Liberia, who came to China to attend the Beijing Summit of the Forum on China-Africa Cooperation. The two sides exchanged views on the development of children in China and Liberia, especially in school feeding. Clar M. Weah thanked China for supporting the nutritional improvement of Liberian children and said that Liberia should learn more from China's successful experience in economic and social development and the two sides should actively cooperate with each other to achieve common prosperity. After the meeting, the delegation visited the Foundation Data Platform and watched the demonstration of the School Nutrition Improvement Initiative data platform of the Children's Development Center.

6.

Policy Recommendations
政策建议

一．提高认识，加强考核

1. Raise Awareness and Strengthen Assessment

应将营养改善计划落实效果、贫困家庭受益情况纳入扶贫开发工作整体部署并进行考核。

The implementation effect of the nutrition improvement plan and the benefit of the poor families should be integrated into the overall deployment of poverty alleviation, and assessments shall be made on the plan.

二．加快学生营养立法

2. Accelerate to Make Policies on Student Nutrition

立法是政策持久稳定运行、建立完善工作体系的基础，国际上已有很多成功经验。立法应对规范与标准、出资责任、问责制度、信息公开等做出明确规定。

Legislation is the basis for lasting and stable operation of a policy and establishment of a sound working system. There are lots of successful experience in this aspect in the world. Norms and standards, funding responsibilities, accountability systems and information disclosure shall be clearly stipulated.

三．尽快取消加餐、冷餐，全面实现食堂供餐

3. Cancel Extra Meal and Cold Meal as Soon as Possible, and Fully Implement the Canteen Meal

根据“阳光校餐数据平台”的统计数据，目前项目监测范围内的 9000 多所学校中仍有部分学校仅给学生提供加餐。在基金会监测的 100 个县中，凡供应午餐的学校，其营养餐中能量、蛋白质以及脂肪含量都达到了中国疾控中心营养推荐量，而课间加餐营养含量不足食堂供午餐模式的三分之一。因此，各校应尽快取消加餐，转而采取食堂供餐模式，进一步巩固和提升政策效果。

According to the statistics of the “School Nutrition Improvement Initiative Data Platform”, some of the more than 9,000 schools covered by the current project only provide students with extra meals during break. Among the 100 counties monitored by the Foundation, the energy, protein and fat contents of the nutritious meals in the schools where the lunch is served have reached the amount of nutrition recommended by the Chinese Center for Disease Control and Prevention, while the nutrition of extra meals is less than one third of that of the canteen feeding. Therefore, schools should cancel extra meals as soon as possible and switch to the canteen feeding mode to further consolidate and enhance the policy effect.

四．因地制宜，调整膳食补助金

4. Adjust the Dietary Grant According to Local Conditions

自营养改善计划实施以来，国家为贫困地区义务教育阶段学生每人每

Since the implementation of the Nutrition Improvement Program, the goverment has provided a subsidy of 4 yuan per meal per student for

餐提供 4 元钱的膳食补助金。由于各地区经济发展水平和物价水平不一致，且民族组成不同（如，回族吃牛羊肉，价格更高），4 元钱在各地区所产生的效用就不同。国家应考虑地区因素，调整膳食补助金。

students receiving compulsory education in poverty-stricken areas. Since the economic development level and price level of each region are inconsistent and the ethnic composition is different (for example, the Hui people eat beef and mutton, thus, the price is higher), the effect of 4 yuan varies in different regions. The state should consider regional factors and adjust the dietary subsidy.

五．定期开展厨师培训，加强食育

5. Regularly Carry Out Chef Training to Strengthen Food Education

目前，营养改善计划的发展已经到了新阶段，要从最初的让孩子们吃饱转变为吃好。各地应组织专业机构定期为食堂厨师提供烹饪培训，在确保校餐营养性的同时优化校餐口味，逐渐提高学生供餐的质量和科学化水平；为学生和老师提供营养知识培训，加强食育，提高营养健康意识，减少食物浪费。

At present, the nutrition improvement program has reached a new stage, namely shifting from making the children eat their fill to making them well-fed. Therefore, professional institutions shall be regularly organized to provide cooking training for canteen chefs, improve the taste of school meals while ensuring that such meals are nutritious, gradually raise the quality and scientific level of student feeding; provide nutrition knowledge training for students and teachers, strengthen food education, improve nutrition and health awareness and reduce food waste.

▶ ▶ ▶ “阳光校餐”数据平台膳食补助资金使用情况监测 Monitoring over the Use of Dietary Subsidy Funds on the School Nutrition Improvement Initiative data platform

附录 1. 各县项目执行反馈报告

Program Implementation Reports by Pilot Counties

陕西省商洛市商南县“阳光校餐”项目试点工作总结

陕西省商洛市商南县科技和教育体育局

（2017 年 12 月）

商南县自启动实施“阳光校餐”项目试点工作以来，我们高度重视此项工作，严格按照上级要求，积极采取网上和实地检查相结合的方式，确保“阳光校餐”项目顺利实施。2017 年，商南县十里坪九年制学校、商南县魏家台中心小学、商南县魏家台寇家村小学等 3 所试点学校被授予“阳光校餐四星级食堂学校”称号。为进一步促进我县学生营养改善计划提质增效，切实抓好“阳光校餐”项目试点工作，结合“阳光校餐”项目实施工作实际，现将试点工作总结如下：

一、基本情况

全县实施农村义务教育学生营养改善计划学校是 89 所，享受学生 13661 人。由于我县大多数学校地处偏远，交通不便，部分学校无手机、网络信号，为了便于开展工作，我们选择 28 所作为“阳光校餐”项目试点学校，学生数是 10315 人。目前，我县“阳光校餐”试点学校均能高质量完成上报工作。

二、工作开展情况

1、思想重视，严格责任追究

学校召开营养改善计划专题会议，与校长签订目标责任书，将此项工作与学校年终考核挂钩，同时要求各校明确分工，夯实责任，选派责任心强、业务水平高的同志专门负责此项工作，并严格按照要求将其工作实效与绩效奖惩挂钩。

2、重修食谱，确保营养均衡

营养餐管理人员结合本地饮食习惯和学校实际，利用“电子营养师”系统，结合信息上报情况反馈，制定了科学、合理的营养膳食食谱，每次季节交替或者新原料上市时，相关人员都会因地制宜、因时制宜地修订食谱，确保学生吃到营养均衡合理、物美价廉质优的营养餐。

3、完善制度，落实岗位职责

要求各校重新修订并完善食堂管理相关制度和岗位职责，做到每个环节的管理都有制度、有专人、有职责、有档案，以精细化的管理制度和严厉的岗位职责去约束和管理相关责任人，做到事事有人管，人人有责任，环环紧相连。

4、加强管理，确保食品安全

食堂管理人员每天都对食堂的环境卫生、设施设备卫生、食品卫生、工作人员的个人卫生和食品安全进行全面、细致的检查。定期召开食堂工作人员会，会上通报食堂管理、食品安全、营养改善计划和阳光校餐工作。经常召开食堂工作人员培训会。通过加强管理和扎实培训，强化全体食堂工作人员的食品安全意识，遵纪守法，认真履职，按章操作，热心服务。

5、认真细致，确保上报质量

作为“阳光校餐”项目试点县，我们感到很荣幸，同时又感到任重而道远，此项工作是对我县营养改善计划工作的考验和监督，我们始终抱着对学生饮食安全和身体健康负责任的态度，认真做好此项工作，做到及时准确上传数据，确保所有照片清晰、供餐照片和供餐信息及实况一致、营养搭配科学合理、食品卫生安全、饭菜的色香味俱全、就餐环境整洁卫生、学生用餐文明有序。

三、存在问题及建议

在“阳光校餐”试点工作开展过程中，尽管我们取得了一定成效，但也存在一些问题：一是学校后勤管理人员不足。目前后勤管理压力很大，各学校均未配备专职生活老师，食宿管理人员多为兼职而且年龄偏大，存在较大安全隐患。二是不便于统计当天那些学校未上报。

建议：一是增加学校后勤人员编制。二是完善“阳光校餐”上报系统，更方便掌握每天试点学校上报情况，特别是当天未上报学校的统计，待其完成此次上报后系统自动将此未上报记录清除。

陕西省商洛市商南县科技和教育体育局

2017 年 12 月 6 日

以阳光校餐为平台，提升营养改善计划实施效果

古蔺县

教育部委托第三方评估机构，对营养改善计划的执行情况、执行效果、信息公开等方面进行综合评估，古蔺县2017年全国“阳光校餐示范县”殊荣；马嘶小学获全国“阳光校餐星级学校”，二郎镇复陶小学五年级学生雷利娇在“阳光校餐”学生营养改善计划五周年征文大赛中荣获一等奖。

自2012年2月古蔺县启动“农村义务教育阶段学生营养改善计划”以来，共整合投入各类资金52134万元，新增就业岗位2000余个，惠及农村义务教育阶段学生近16万人。在确保学生吃上“热乎可口、健康美味”的营养餐的同时，普及营养科学知识，培养科学的营养观念和饮食习惯，引导学生养成勤俭节约，懂得感恩的行为意识，提升营养改善计划的实施效果。

统一供餐模式，内驱“自转”为“公转”。古蔺地处川黔交界，幅员面积3184平方公里，辖26个乡镇、269个行政村、85万人，居住有汉、苗、彝等26个民族，是国家扶贫开发工作重点县、四川省革命老区县和少数民族地区待遇县。结合古蔺县校点分散，交通不便等实际，组织调研组多次深入学校、村社实地调研，在广泛听取各方意见的基础上，反复论证，精心制定任务清单，精准“配餐”工作，采取“学校食堂供餐”模式。对暂时无食堂的学校，一方面抓紧制定食堂修建规划，及时下达项目和资金，加快修建进度；另一方面督促学校积极搭建临时伙房供餐或通过大校带小校、有食堂学校向周边无食堂校点送餐的方式予以解决。在各乡镇、各试点学校和相关部门加班加点、精心准备的基础上，2012年来古蔺县农村义务教育阶段学校全部实行食堂供餐模式，食堂供餐率达100%。

古蔺县委、县政府将营养改善计划列为全县重点民生工程，实行“4+X”模式，每年补助1000余万元用于营养改善计划的工勤人员工资等经费保障，并随中央补助资金按月划拨到各学校，确保每生每天4元的专项补助资金全部用于购买营养午餐的原材料。采取“向上争取+县级自筹”的方式，有计划、有步骤地新建、改建、扩建一批符合标准的学生食堂，先后投入资金1.07亿元，建成学校食堂210间、伙房94间，添置了厨具、餐桌椅、消毒等设施设备，全县食堂办证率达到100%，基本实现“校校有食堂、人人吃午餐”的目标。先后投入资金

100 余万元，逐步推进“明厨亮灶”工程，分步实施“视频厨房”“透明厨房”两种形式，现已建成“明厨亮灶”食堂 216 间，成功创建市级标准化食堂 6 个，通过“多方联盟”借智借力，形成“齿轮链动”效应，盘活发展内力，有效提升全县学校食堂管理水平。

创新联盟形式，力促“短板”变“样板”。为真正把营养餐改善计划办成“惠民”工程、“暖心”工程，成立了古蔺县义务教育学生营养计划工作领导小组，建立县长、乡镇长、局长、校长“四长”领导负责制，形成“政府主导 + 教育主管 + 部门协作 + 乡镇负责 + 学校运行”工作机制，打造“1+N”“N+N”联盟“聚合体”，实行统一领导，分工负责，分级管理，责任到人，层层签订责任书，与考核奖惩挂钩，激励联盟成员之间各展所长，领导小组定期或不定期对营养改善计划工作进行专题研究和精细安排，及时研究解决工作的“短板”，并要求食药监、财政、卫生防疫等部门履行相应职责，构建了层层负责、环环相扣的责任体系。在县教育局设立县级营养改善计划管理办公室，落实 6 个岗位编制，负责全县营养改善计划日常管理工作，各乡镇中心校、直属学校均成立营养办，设 1 名营养办主任，专门负责学校的营养改善计划管理工作；各学校食堂均设 1 名专兼职食品安全管理员，负责营养午餐食堂进出货登记、菜谱制订、试尝留样、公示公开等工作；各学校教师、学生和家长选出代表，组成学生膳食管理委员会，发挥对食堂的检查、监督、评议等职能，建立价格听证制度、满意度测评制度、工作质询制度等，促进学校食堂民主管理，使典型经验做法有效推广、各类优势资源横向整合，扩散“样板效应”，实现互融共促、同步提档。

构建长效机制，集成“创新”促“创优”。秉持“课题化设计、项目化管理、工程式推进”工作思路，先后制定完善《古蔺县农村义务教育学生营养改善计划及学校食堂管理长效机制》、《古蔺县农村义务教育学生营养改善计划和学校食堂食品安全保障管理办法》、《古蔺县义务教育学生营养改善计划专项资金管理办法》《古蔺县义务教育学生营养改善计划专项资金使用管理实施细则》等管理制度，严格执行资金管理、食品安全、企业准入、绩效考核、责任追究、民主监督等工作制度。学校全面落实餐前 30 分钟试尝制度和学校负责人陪餐制度。严格按照营养改善计划“八把关、五严禁”食品安全要求和食堂管理“十规范、十做到”强化“食品准入”，严把进出库、加工制作、成品贮存、试尝留样、供餐用餐、清洗消毒等操作“十道关口”，确保学生用餐安全。推广午餐营养食谱，前置干预菜谱制订，学校提前一周送审带量食谱，要求食堂饭菜既满足学生营养需要，又适合学生胃口。各学校每天制定营养膳食食谱，合理搭配学生营养膳食，确保每天菜谱为一荤一素一汤，米饭完全保证学生吃饱，严格把握每生每天猪肉不低于 1 两，适时增加牛肉、羊肉，大米、菜籽油均使用国标一级。各学校还建立了学生营

养监测与评估制度，确定 26 所学校为营养监测点，开展学生营养监测与评估，让学生足额享受到可口、营养均衡、免费优质的营养午餐。整合农民工培训项目对全县符合年龄、健康标准的 800 多名食堂从业人员开展为期 40 天的“封闭式”专业性培训，确保从业人员体检、培训双通过率保持 100%。全县分片区利用每学期开学后两个周的周末，对所有校长、总务主任、营养办主任、食品安全管理员、食堂从业人员等 2100 多人进行食堂管理、操作培训；历年来开展各级各类培训 6000 人次，扩大“风景”辐射效应。同时，要求各学校制定学校食品安全应急处置预案，每学年不定期开展应急演练，规范应急处置程序，提高应急事件的处置能力。近年来，全县共发现并及时整改食品安全隐患 68 处，未出现一起食品安全事故。

聚焦廉政建设，破解“壁垒”强“堡垒”。为确保每一分钱都落到学生碗里，吃到孩子嘴里，严防资金“跑、冒、漏、滴”，认真落实营养改善计划大宗物品“统一招标、统一采购、统一价格、统一配送”的四统一要求，严格审核供货商资质，实行索证索票登记制度，规范进货渠道，坚决做到源头可控，有据可查。实行分账核算、集中支付、专款专用，严格执行资金拨付程序。经费管理推行“日记、周核、月结”等内控制度，确保资金使用规范，学生足额享受中央膳食补助。以源头上预防腐败，实行审计、行政、法律、舆论等多种监督方式，将计划实施情况完全置于阳光之下，架起一条防腐倡廉的“高压线”。目前，未发生挤占、挪用营养改善计划资金等违规现象。

为增加营养改善计划的透明度，接受社会和家长的监督，将营养改善计划打造成学生的“安全餐”、“营养餐”，积极“晒”出学生用餐。全县所有学校（校点）严格执行墙上“晒”就餐人数、陪餐人员、食谱、食材、资金的“日公示”、“月公示”，坚持阳光操作，定期公开经费账目。马嘶苗族乡马嘶小学、永乐镇永乐小学、石屏镇印盒小学等 110 所学校落实专人负责网上“晒”，通过手机 APP（电脑）每日上报用餐原料、用餐食谱、用餐照片、使用资金等信息，在“阳光校餐”网上“晒”近 50000 条校餐数据，所有人在网上轻轻一点，就能一览无余，从而提高营养改善计划的公开性和透明度，充分发挥制度监督、约束、限制的作用，打造坚强有力的战斗“堡垒”。

附录2.

Essays Portfolio

优秀
校餐征文

教师征文

营养餐让我把希望点燃

人们常说：“天上不可能无缘无故掉陷饼。”“世界上没有免费的午餐。”然而，如今我们河西镇石坝村中心完小的孩子们享受着国家的“免费的营养计划”已整整五年了！

我们河西镇中心完小四百六十多名师生正享受着“免费午餐”的福祉。每日“一素、一荤”营养配备，教师不再为午餐操心，安心工作；孩子们也不再为午餐发愁，快乐学习。

中午时分，二、四、六年级的孩子们在老师的带领下，先排队到食堂打饭菜，在二楼大厅就餐；一、三、五年级学生则是后排队到食堂打饭菜，在二楼大厅就餐；跟班老师陪同在大厅里就餐。

作为一名在第一线探索、实践国家带来的免费午餐之路的教育工作者，我现在带的这个班正好搭上了上免费午餐的班车，五年的付出，五年的执着，曾经年幼无知的小孩在爱的呵护下已成长为小学快毕业的青春少年。看着自己的学生享受着免费午餐的温暖和幸福，身心在不断地成长，我和我的同事们感到自己的努力没有白费，为实现免费营养餐成为中国儿童的基本福利的目标所做的工作是值得的。心中充满欣慰和自豪。

对家境比较困难和离校较远的农村孩子来说，免费午餐让他们懂得珍惜读书机会，从而树立好好学习、胸怀抱负的理想。王博涛同学家境贫寒，父亲瘫痪在床，家庭丧失主要劳动力，如果不是有免费午餐的好处，早就辍学了。免费午餐为他就学节省了一大笔开支，他父母咬牙也要供他读书。比他大六岁的姐姐就没有那么幸运了，读到四年级就辍学了，直到现在姐姐都还在羡慕他，常常对他说：“你的命真好，赶上了好机遇。”我们老师也常常不失时机地教育他要努力学习，珍惜今天读书机会。王博涛很懂事，他决心用知识改变命运，改变家境，学习很用功，连续多年被评为优秀学生。

免费午餐塑造了学生高尚的人格。吃饭最能看出一个人的品行修养，小学生很多细微的日

常行为习惯在用餐时最容易表现出来。在免费午餐的探索实践中我们老师觉得利用吃免费午餐对学生进行行为习惯教育是个非常不错的方法，于是建议学校制定一系列整改措施，规定班主任跟班管理，要求学生饭前要洗手，进入食堂就餐不疯跑，排队就餐不插队。要做到讲究礼仪、关爱他人、互相谦让、勤俭节约、爱惜粮食、不挑食等等。教师在学生就餐时跟班管理对规范学生日常行为习惯特别管用。杨佳同学刚入学时，邋邋遢遢，沾满了不少不良习气，这些不良行为习惯在他就餐时暴露无遗，我跟班就餐时发现一次纠正一次，由于马文莉同学从小就接受行为习惯教育，现在不管谁接触到她，都觉得她是一位有品德修养，举止文雅的小姑娘，还多次被评为校园文明礼仪之星。石振刚同学初入学时，常常吃饭挑食，吃不惯学校的饭菜，像他这样的孩子还真不少。为了让免费午餐更好地惠及每位学生，让学生吃饱吃好，读书不饿肚子，我们学校把做好每顿午餐作为关爱学生的头等大事来抓，绝不以克扣学生午餐费用作为盈利手段，保证学生午餐经费一分不少地用到改善学生的伙食上。在提高午餐质量和服务质量上狠下功夫，加大对后勤资金和食品安全卫生的监管力度，做到食品采购共同参与，账目开支阳光透明，杜绝“三无”食品进校园，实现午餐丰富有营养。力求服务质量上档次，食堂一周之内每天一素、一荤。有荤有素不重复，每天让学生吃上热气腾腾的饭菜。四五块钱的伙食弄得比农村学生在家的一般水平都好。

午餐质量和服务质量提高了，同学们不再挑食了，甚至感觉到学校免费午餐的伙食要比家里还要好，更难能可贵的是同学们在吃免费午餐的同时心灵受到爱的洗礼和熏陶，体会到了爱是帮助，爱是奉献的真谛。

用爱心点燃贫困山区孩子的希望，用温暖托起他们美丽的梦想！相信在今后，在未来更多的儿童将在享用国家免费营养计划的大爱中成长起来。

宁夏吴忠市同心县河西中心完小　**杨瑛**

营养餐让我把希望点燃

距离南涧县城六十公里，有一个长满森林、飘荡着彝族打歌调的地方——小湾东镇。小湾东镇中学座落在一片翠绿之中，早晨听鸟鸣声声，夜晚闻松涛阵阵，着实是一个彝家子弟读书修身的好地方。

彝乡的华山松，从小慢慢成长。小湾东镇中学也像华山松一样，从小到大，慢慢成长。

记忆中的锣锅饭

农村的孩子苦，农村读书的孩子更苦。“苦”主要体现在“吃”上。农村孩子饭食的质量自然都好不到哪里去，这个大家都一样。“苦”主要是苦在做饭上。我们这样一个寄宿制学校，学校学生没有食堂。学生放学后还要自己做饭。

中午一放学，学生们就争先恐后地跑到宿舍，提出小火炉，开始烧锅做饭。顿时，校园里浓烟升腾，好像发生了森林火灾。洗菜的水台旁边也排起了长队，像一条大麻蛇慢慢向前蠕动。

等到学生稀里糊涂吃了饭，大多数学生的脸上都沾上了锅灰，汗水一流下来，脸上就留下了一道道污迹，就像是爬过许多蚯蚓。

上课前几分钟，校园里只见提着小锣锅的学生你来我往。

要是遇到下雨天，“吃饭”就成了学生提起来都害怕的事。所以，我校的学生流失现象一直比较突出，让领导伤透了脑筋。

学校诞生了小食堂

“普九”以后，学校的硬软件得到了改善。学校搭建了十几平方米的铁皮房当作学校的食堂。从此，学校有了两个学生食堂。学校领导还派我用红漆像模像样地写上了：食堂一、食堂二。

食堂实行社会化管理——学校招标，由校外人员经营，学校监督。学生不用自己生火做饭了，但要自掏腰包来购买食堂提供的菜饭。

但这还是让学生家长松了一口气：再也不用让孩子遭那么大的罪了。校园里突然多了孩子们的欢声笑语。篮球场上孩子们的跳得更欢实了。

学校里有了司务长

学校是有了食堂，但是，小湾东镇地处高寒山区，经济不发达，学生家长拿不出更多的钱让学生改善伙食。所以，小湾东镇中学的食堂的饭菜质量一直较差。家长疼自己的孩子，但实在没有办法；老师爱自己的学生，但实在无能为力。一提起学生食堂的菜饭，大家都直摇头：不知怎么办才好。

彝乡的华山松遇上了天上的甘霖，我们的学生遇上了党的好政策。国家实行了“营养餐”。学校安排了业务能力强又有责任心的老师担任司务长，专门管理这件事。

司务长高兴地把第一次送来的牛奶发给了学生们。学生们带着笑，口含吸管喝着牛奶，谁也不说话。最后，大家证实了这并不是神话。“哈哈、哈哈……”都笑了起来。

山里的孩子在学校吃起了“小炒”，这在山民中间一度成为美谈。

学生周末放学回家，很多孩子都很自豪地对自己的爸爸妈妈说：我们学校有了司务长。

现在流行“全供餐”

现在小湾东镇中学的“小食堂”已不复存在，取而代之的是三层砖混结构的“大食堂”。有了标准的操作间，二楼是学生餐厅。学生一边吃饭，一边看电视，一边休闲。“现在的吃饭才叫做吃饭”，家长们都高兴地说。

并且现在的学校食堂由学校自己管理经营，学生不需要交任何费用就可以就餐吃饭，学生们都知道这叫做“全供餐”。家长也常常充满期待地对孩子说：儿阿，要好好学啊，不能对不起国家啊。

校园旁的华山松，哗啦啦地摇着头，还在长。看样子过不了几年就可以成材，做彝家房屋的大梁了。

美丽彝乡，阳光普照，幸福成长！

云南省南涧县小湾东镇中学　**自绍尧**

学生征文

阳光校餐，伴我成长

雨露、阳光是万物的营养，呵护着万物成长！而阳光校餐则哺育着我们茁壮成长！

现在，我们每天中午都在享受着国家免费提供的营养午餐，两菜一汤，色、香、味俱全，营养丰富。几年下来，大家的精神面貌都有了很大的改变：健康、强壮，校园充满我们的欢声笑语，个个炯炯有神。不再看到骨瘦如柴、精神不振的同学们了。

又一天，天空乌云密布，周围一片阴沉、暗淡，连心情都不自觉郁闷起来。

第三节课下课铃声响起了，眼前亮起来了，值日的同学纷纷走出教室。不一会儿功夫，就小心翼翼地提着饭桶和菜桶陆续进入教室。今天的菜有土豆炒肉丝、豆腐炒肉丝和黄瓜大骨汤。看着那闪着油光、香味扑鼻的菜和汤，我的喉结忍不住上下蠕动着，连肚子也“咕噜咕噜”叫个不停。

经过一番等待，我终于盛好了饭菜，迫不及待地回到座位上，一坐下就马上拿起勺子大口大口地吃起来。偷偷地看了一下周围，同学们也一样，一直不停地往嘴里送饭菜，大家脸上都洋溢着幸福的神色。

每当嘴里吃着可口的营养午餐时，我都会想起那件事。虽然经历了六年之久，至今想起仍然历历在目。

那是一个冬天的早上。放学时，天空中落下一滴滴雨水，水滴细如珠玑，到处都是云遮雾罩，时不时还刮起一阵阵大风。上一年级的我独自一人迈着沉重的步伐走出教室——回家吃午饭。

一出教室，一股寒风就向我扑面袭来，我本就衣着单薄，一下子觉得像掉进冰窟窿里。脖子一缩，不想再迈出一步。但为了填饱肚子，只好咬着牙走下去。走到了半路，一阵大风向我刮来，直接把我的雨伞吹翻了，而我脚下一滑，摔到了地上，眼眶中噙满了泪水，心中充满了委屈，想哭却怎么也哭不出来。为了午餐，我伸出手擦拭着眼泪，狼狈地站起来，拿着坏了的雨伞，整个人湿漉漉地向家的方向走去。

相对于以前，我们现在可真是太幸福了。而这幸福的现在都是我们伟大的中国共产党领导下的祖国给予的！

记忆中的午餐与现在相比，真是令我感慨万千。德国哲学家尼采说过：“感恩即是灵魂上的健康”。祖国——母亲，不仅给了我们幸福、欢乐、安定的学习环境，还为我们提供了免费的营养午餐，改善了我们的伙食，让我们告别了饥饿。

虽然现在我们无以回报，但我们已经种下了一颗感恩的心。感谢国家对我们贫困山区孩子的关怀，因为您的大爱让我感到温暖；因为您的帮助让我看到了光明。我会用实际行动证明自己，珍惜粮食，用心做人，好好学习各种本领，为长大后报答祖国和人民的养育之恩而贡献自己所有的力量，把祖国建设得更加繁荣富强！

惠水县甲坝民族小学六年级（1）班　**李星星**

辅导教师　**班荣力**

营养午餐是我的好伙伴

如今回忆起那刻骨铭心的一天，仍然像看电影一样清晰地呈现在我的脑海之中。

雨正在淅淅沥沥地下着，十月的天气里，风已然略带寒意。刚上小学一年级的我，早已饿得饥肠辘辘，于是不得不踏上那条泥泞不堪的小路回三里之外的家里。还记得在半路上的时候，突然，大雨倾盆。我变成了一只落汤鸡，样子狼狈极了，望着灰蒙蒙的天空，我加快了脚步。回到家赶紧跑向妈妈怀里，嚎啕大哭，端上饭碗就开始狼吞虎咽，妈妈在一边说着："慢点吃，别急。"

没想到，新学年到来的时候，学校已经有了食堂，还请来了几名厨师。后来听老师说今年的三月份开始国家每天免费给我们补助营养餐。每当早读后，我们便到教室里边吃着鸡蛋、喝着牛奶，边聊起天来，别提有多开心了，上课时个个神清气爽，精力集中，学习的效率也好多了。

我有时会忘记自己是一个生活在农村的孩子，我觉得我就是一个城市的孩子，因为我们享受着同样高质量的教育，同样幸福快乐的生活。 能吃到免费营养餐，这是我们的祖辈们想都没有想过的，他们的孩子上学不用交学费，这已经让他们对我们的国家感激不尽了，这下还给他们的孩子吃免费的营养餐，这让远在外地务工的家长们多么振奋不已啊！就拿我的爸妈来说吧，他们经常打电话告诉我说："好孩子，在家一定要好好学习，将来为国家多做些贡献，这样才不枉国家对你们的培养啊！"

"谁言寸草心，报得三春晖"，我们一定要树立远大的理想，努力学好知识，将来把我们国家建设得更加富强，使我们的生活更加幸福！

宁夏同心县河西镇艾家湾小学六年级　**田欣**

合作伙伴

Partners

Microsoft

Johnson & Johnson 强生

mastercard 万事达卡

Swiss Re

MARS incorporated

力拓 RioTinto

PRUDENCE FOUNDATION 保誠亞洲公益基金

IDG Capital

IDRC | CRDI
International Development Research Centre
Centre de recherches pour le développement international

中国发展研究基金会
China Development Research Foundation

北京市东城区安定门外大街 136 号皇城国际中心 A 座 15 层
Add: Floor 15, Tower A, Imperial International Center, No. 136, Andingmen Wai Avenue, Dongcheng District, Beijing

邮编 *Zip code*：100011
电话 *Tel*：86-10-64255855
传真 *Fax*：86-10-64255855-8100
电邮 *E-mail*：comm@cdrf.org.cn