

The Role of Chinese Technology in Tanzanian Rice Value Chain

中国技术在坦桑尼亚稻米价值链中的作用

Wang Qian (王骞)

Chongqing Zhong Yi Seed Co., Ltd

Chongqing Academy of Agricultural Sciences

June 2021



目录

contents

- 01** Rice Production
- 02** Environment
Investment in Tanzania
- 03** Technical cooperation and
Development Experiences
- 04** Experience of overseas
Investment cooperation
- 05** Suggestions on cultivating
rice value chain



01

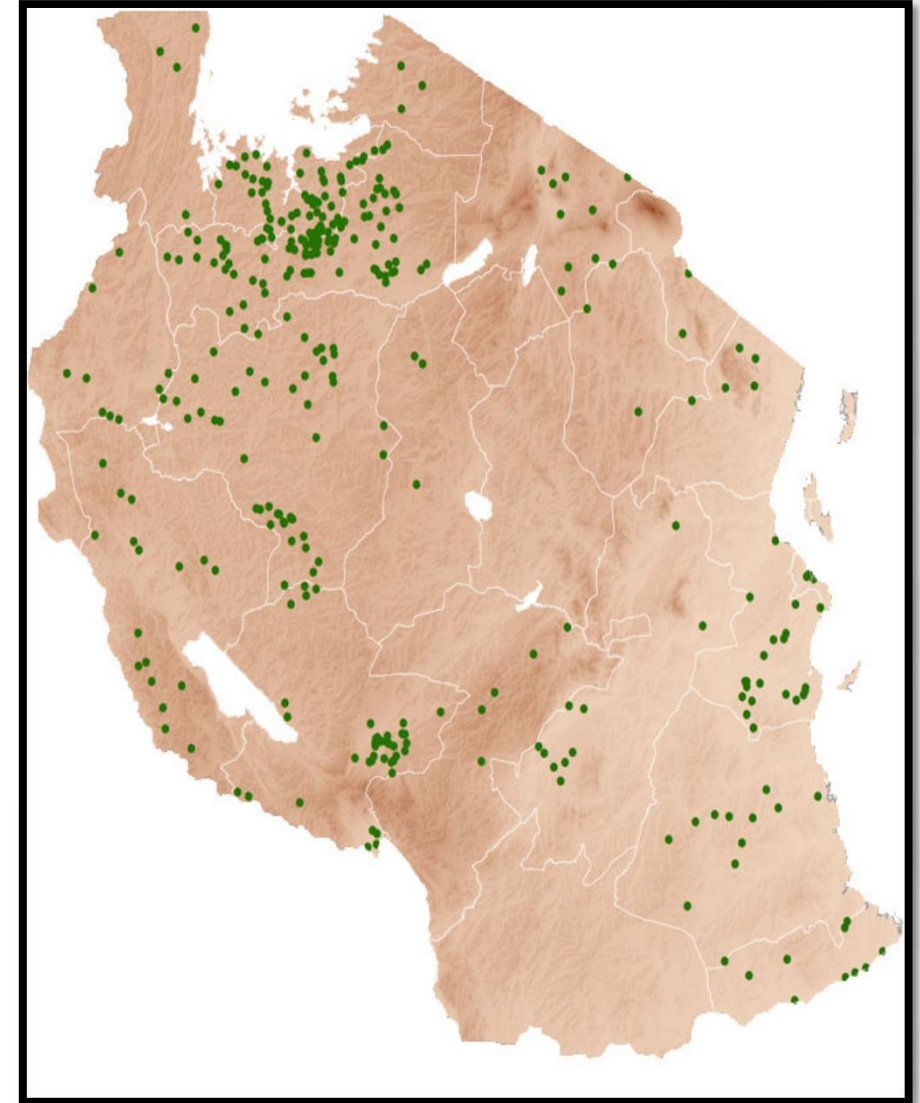
Rice Production Environment

恒泰尼拉的水稻生产环境

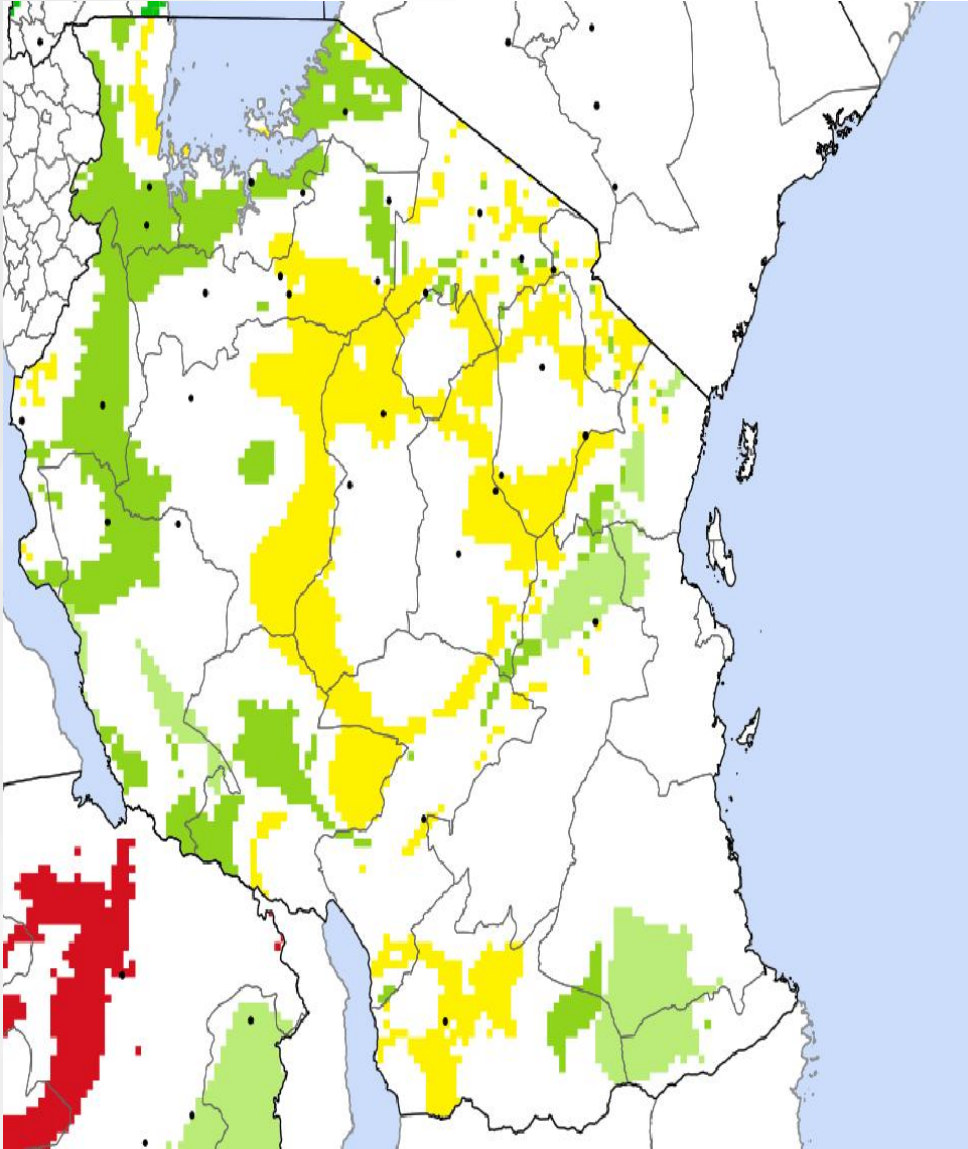
» Rice Production Environment

1、 Importance of rice and major rice-producing areas in Tanzania 稻米的重要性和主要产区

- Rice is the second most cultivated food and commercial crop in Tanzania after maize, with a cultivated area of about 681,000 ha, which represents 18% of the cultivated land. Yields are generally very low (1.5-2.4 tons/ha.) as most is grown with traditional methods.
- In Tanzania rice is produce in different parts of the country this includes Morogoro, Mbeya Shinyanga, Simiyu, Mwanza, Songwe, Kilimanjaro, Geita, Tabora, Iringa, Pwani, Tanga and Zanzibar. There are many other regions which are emerging as potential in rice produced such as Dodoma in places like Mvumi, Mtwara, Rukwa and Ruvuma.



» Rice Production Environment



2、 Regional distribution of rice and upland rice in Tanzania 水稻和旱稻的区域分布

- In Tanzania rice is produced mainly under lowland rain fed which contributes 72% of the crop, it is followed by upland rice with 22% and irrigated rice contributes about 8%.
- Lowland rain fed rice environments can be banded, or unbanded and shallow floods.
- Unbanded and flooded areas with floods not controlled; Kilombero, Wami, Kyela, Ruaha, Pangani, and Rufiji basins.
- Upland environments consist of dryland and hydromorphic areas of Usambala, Udzungwa, Ulugulu, Mahenge, Kyela, Kilwa etc.
- In irrigated environments consists fully irrigated areas: Mbalali, Kapunga, Wami Dakawa, KATC, Mkindo, Kitivo, Igurusi, Mombo, Ndungu, Lupilo and Mkomazi.

» Rice Production Environment

3、major commercial varieties 主要推广品种

In Tanzania there are two groups of varieties grown

- Lowland/Irrigated varieties such as TXD 306 (SARO 5), TXD 88, TXD 85, SATO 1, SATO 9, SUPA and Komboka
- Upland varieties such as NERICA1, NERICA2, NERICA4, WAB 450, and NERICA 7. These varieties are less produced by the farmers
- Among the two groups of rice varieties Lowland varieties (TXD 306 (SARO 5), TXD 88, TXD 85, SATO 1, SATO 9, SUPA and Komboka) are mostly grown by the farmers. However TXD 306 is predominantly grown by many farmers especially at the irrigated areas due to its high yield potential and semi aromatic traits, the other variety most grown by the farmers is SUPA attributed by high aromatic.



Rice Production Environment

4、Scientific research 科学研究情况

In the country the rice research is growing at very small pace, there some success which has been attained including release of several rice varieties suitable in different agro ecologies and resilient to biotic and abiotic stresses. Other success including dissemination of technologies developed from the research. However there number of challenges facing the research areas including:

- Insufficient funding to conduct basic researches such as rice breeding for new varieties.
- Lack of facilities to conduct research such as Laboratories, breeding facilities, screen house and green house, planters, and harvesters, Cold rooms for storage of the germplasm materials, and ware houses for storage the harvested rice seeds.
- Capacity building, there are number of staffs who need to be capacitated in different disciplines and different levels such as short course and long courses including Masters and PhD.
- Poor irrigation system to enable conduct the research throughout the year.

» Rice Production Environment

5、Technologies needed to be provided by china 需要中国支持的技术

There are number of technologies required to be provided by China which will excel the rice sub sector in Tanzania these including

- Rice breeding techniques such as hybrid technologies
- Water management in the field and weed management
- Harvesting technologies especially fabrication of very simple machines which can be used by the farmers in their fields
- Trainings including long courses in PhD and Masters as well as short courses on how to manage the rice field and experiences from China in rice production





02

Investment in Tanzania

坦桑尼亚的投资情况

Investment in Tanzania

1、Investment Model /模式——Inside at Both Ends, Outside In The Middle / “两头在内，中间在外”



» Investment in Tanzania



Demonstration Center
of China Agricultural Technology

2、Target/目标

- 1) Enhance bilateral friendship and promote bilateral relations. 增强中坦友谊，促进双边关系；
- 2) Transfer advanced agricultural technology, improve the level of agricultural production and maintain food security. 传播先进农业技术，提高农业生产水平，维护粮食安全；
- 3) Establish agricultural experiment demonstration and extension training base, drive bilateral enterprise cooperation and expand international trade. 建立农业试验示范和推广培训基地，带动双边企业合作，扩大国际贸易；
- 4) Develop modern agriculture and cultivate seed industry chain. 发展现代农业，培育种子产业链；
- 5) Cultivate leaders of agricultural prosperity and young talents of agricultural science and technology. 培养农业致富带头人和青年农业科技人才。

» Investment in Tanzania

3、Primary Coverage/内容

1) **Experimental Study:** Rice, corn, vegetables, banana tissue culture, laying hens breeding, etc. 试验研究: 水稻、玉米、蔬菜、香蕉组培、蛋鸡养殖等;

2) **Personnel Training:** Agricultural officials, technical extension personnel, agricultural experts, demonstration households, farms, farmers, etc. 人员培训: 农业官员、技术推广人员、农业专家、示范户、农场、农户等;

3) **Demonstration And Promotion:** Centralized Demonstration, Core Demonstration and Multi-plot Demonstration in Different Agricultural Provinces 示范推广: 集中示范、核心示范、多个不同农业省示范;

4) **Cultivate Value Chain:** For example: seed industry chain; industry chain of grain and oil production, processing and sales. 培育价值链: 例如种子产业链、粮油生产加工销售产业链。





03

Technical cooperation and Development Experiences

技术合作和发展经验

Technical cooperation and Development Experiences

1、 Input technology, develop order agriculture, meet the local market demand of agricultural and sideline products 输入技术，发展订单农业，满足当地农副产品市场

1) The investor inputs technology and supplies; the host country's professional cooperatives and farms provide land and organize production activities. 投资方输入技术、提供物资；东道国专业合作社、农场等提供土地，组织生产。

2) Investors purchase products and bear the risk of sales and profits and losses. 投资方收购产品，承担销售和盈亏风险。

3) Source of income: Sales of agricultural and sideline products. 收益来源：销售农副产品。



Technical cooperation and Development Experiences



2、Technical cooperation with seed enterprise to develop seed industry 技术合作, 联合种子企业, 发展种子产业

1) The investor provides technology, and the seed enterprise of the host country provides market, means of production and organization production activities. 投资方提供技术, 东道国种子企业提供市场、生产资料、组织生产。

2) Seed enterprises in host countries bear the sales risks. 东道国种子企业承担销售风险。

3) Source of benefits: technical service fee. 收益来源: 技术服务费。

Technical cooperation and Development Experiences

3、 Lease or purchase land, build processing base and develop order agriculture 租赁或购买土地，建设加工基地，发展订单农业

1) Lease or purchase land and invest in processing base. Such as: rice processing base, corn flour processing base, etc. 租赁或购买土地，投资加工基地。例如：大米加工基地、玉米粉加工基地等。

2) Work with the host country's professional cooperatives, farms to conduct order production. 与东道国专业合作社、农场，订单生产。

3) Source of benefits: value added by agricultural products processing. 收益来源：农产品加工增值。



Technical cooperation and Development Experiences



4、Improve the contribution rate of science and technology, enhance the competitiveness of enterprises by joint research and variety breeding 联合研究, 培育品种, 提高科技贡献率, 增强企业竞争力

1) Carry out joint research. The host country's research institutions provide land, agricultural means of production and organize the field production. 联合研究, 东道国科研机构提供土地、农业生产资料、组织田间生产;

2) Both parties share the intellectual property rights according to their contribution rate. 双方根据贡献大小, 享有知识产权。

3) Source of benefits: intellectual property. 收益来源: 知识产权。



04

Experience of overseas Investment cooperation

境外投资合作体会

» Experience of overseas Investment cooperation

1、Drive business by commonweal 以公益带商业

- 1) Experimental research: Screening new varieties and techniques. 试验研究：筛选新品种和新技术；
- 2) Training personnel: extension personnel, experts, demonstration households, etc. 培训人员：推广人员、专家、示范户等；
- 3) Demonstration and popularization: centralized demonstration, core demonstration and regional demonstration. 示范推广：集中示范、核心示范、分区示范。



» Experience of overseas Investment cooperation



2、 technological innovation 技术创新

1) Improve technology to meet the needs of local production. 改进技术，适应本土化生产需要；

2) Set up technical standards and publish the standards in local languages. 编制技术标准，以本土语言传播；

3) Publicize and display new technology to improve social recognition. 宣传和展示新技术，提高认可度；

4) Hold discussion and exchange activities, share experience and improve methods 开展讨论交流活动，分享经验，改进方法。

» Experience of overseas Investment cooperation

3、Cultivate value chain 培育价值链

1) Aim at the local demanded industry. For example, there is a shortfall in rice production, but as the economy grows, so does consumer demand. 找准当地需求产业。例如，稻米产量本身存在缺口，然而随着经济增长，消费需求也不断增长。

2) Open up the industrial chain and form a virtuous circle. Form an integrated chain of seed cultivation, field production, agricultural and sideline products rough processing, deep processing and marketing. 打通产业链，形成良性循环。从种子培育、大田生产、农副产品粗加工、精深加工、贸易等形成一体化链条。



» Experience of overseas Investment cooperation



4、Pay attention to education and employment 重视育人用人

1) Expand technical training area. 扩大技术培训区域。 The training participants extend from officials, technicians, demonstration households and farmers to agricultural school students, middle school students and primary school students. 培训从官员、技术人员、示范户和农户，延伸到农业学校学生、中学生、小学生等。

2) Train multi-level talents. 培养多层次人才。 Cultivate the project executive ability of young scientific and technological talents, improve the level of seed breeding, and cultivate leaders for becoming rich. 培养青年科技人才的项目执行能力，提升种子繁育水平，培养致富带头人。

» Experience of overseas Investment cooperation

5、 Cultural exchange and mutual learning 文化互鉴和文化融合

1) We have laid the foundation for long-term cooperation mechanism through mutual learning and integration of cultures. 通过文化互鉴和融通，为长效合作机制奠定基础；

2) In the process of cooperation, Identify with their own national culture and respect the local national culture. 在合作过程中，认同本民族文化，尊重当地民族文化；

3) Organize cultural and recreational activities, or actively participate in local cultural activities. 组织文化娱乐活动，或积极参加当地文化活动。





05

Suggestions on cultivating rice value chain

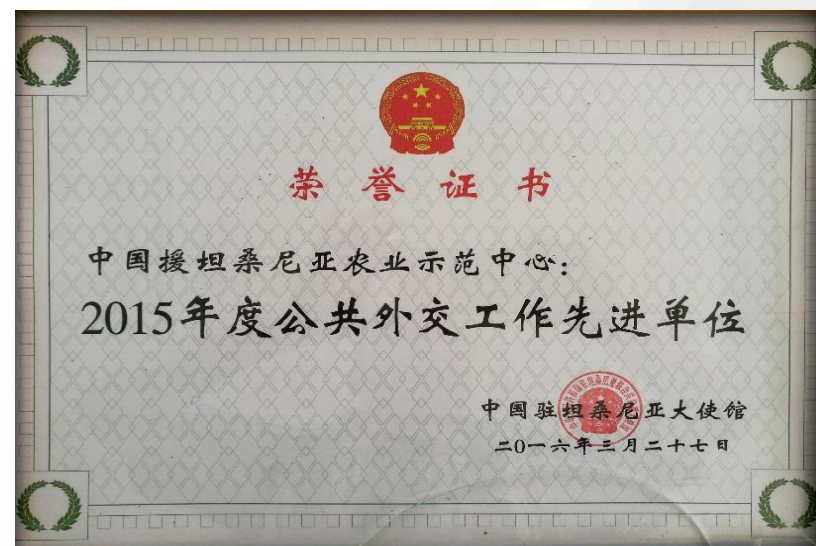
培育水稻价值链的建议

» Suggestions on cultivating rice value chain

1、Attach importance to the construction of public welfare brand projects and enhance the credibility of investment 重视公益型品牌项目打造，增强投资可信度

For example, the agricultural technology demonstration center invested and built by China in Africa, with 10 years of experimental research, personnel training, technology promotion and publicity display, has enhanced the overseas audience's sense of acquisition, formed a good reputation, produced a good agglomeration effect, and brought driving effect for enterprises to invest in Africa.

例如，我国在非洲投资建设的农业技术示范中心，持续10年的试验研究、人员培训、技术推广和宣传展示，增强了境外受众的获得感，形成较好口碑，产生了较好集聚效应，为企业在非洲投资起到了带动作用。



» Suggestions on cultivating rice value chain



2、Strengthen bilateral policy communication and cultural integration to reduce possible conflicts 加强双边政策沟通和文化融通，减少发生可能的矛盾

For example, select specialized institutions with relatively high credibility and familiar with domestic and foreign policies and regulations to participate in enterprises' investment and production process, find problems in time, resolve unnecessary contradictions, and avoid detours abroad.

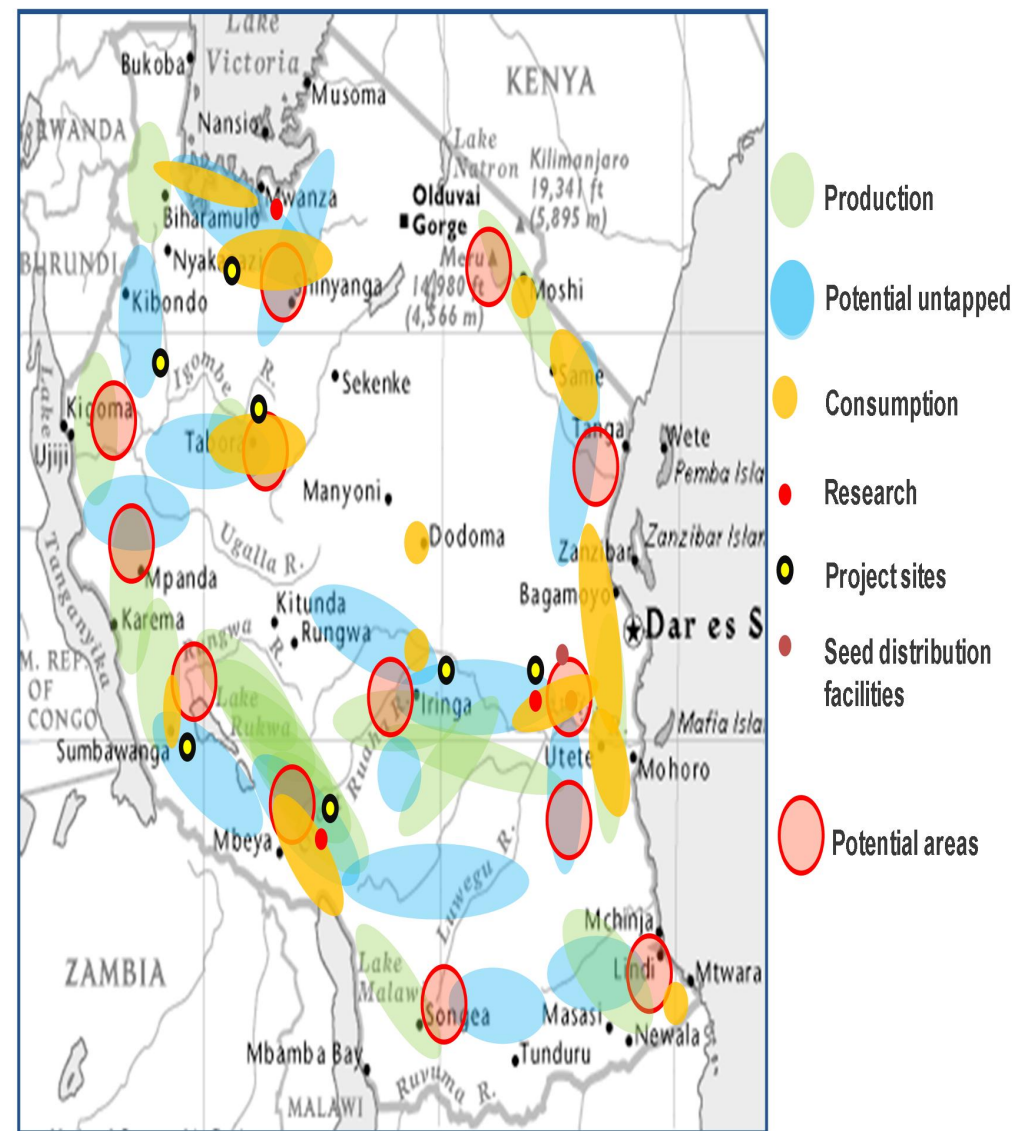
例如，通过选择公信力相对较高，对境内外政策法规都比较熟悉的专门机构，经常性地参与企业生产投资的过程控制，及时发现问题，化解不必要的矛盾，让企业在境外少走弯路。

» Suggestions on cultivating rice value chain

3、Pay attention to the integrated application of standards and process control to improve work efficiency 重视标准规范和流程控制的一体化应用，提高工作效率

For example, fuse the domestic technology and African local technology to form a set of relatively unified and easy operation technical regulations, which is easy to grasp, spread fast, high efficiency, and ultimately increase the convenience of bilateral variety exchange and technology transfer.

例如，国内技术与非洲当地技术进行融合，形成相对统一便于操作的技术规程，易掌握，传播快，效率高，增加品种交换和技术转移上的便利。



Thank You !



Demonstration Center of China Agricultural Technology

Contacts: Wang Qian QQ: 84847935 Fax: +86 023 62802826

Telephone: +86 13983065556 / +255 623239558

E_mail: 84847935@qq.com wangqians@yahoo.com

Website: www.cntza.com www.cqseed.com www.cqaas.cn