Innovation Policies for Inclusiveness – Policy Cases

Envoy of System

Country: People's Republic of China

1. Short Description

The ***Envoy System*** was established in 2002, and works to **promote innovation among rural populations by sending science and technology (S&T) specialists** to rural areas. It also aims to encourage rural entrepreneurship through the use of S&T. The envoy system played an important role in the expansion and adoption of S&T methods in agriculture during the transition from a planned economy to a market economy.

This policy profile is part of a policy toolkit on innovation policies for inclusiveness. It is relevant for territorial inclusiveness.

2. Policy Characteristics

Basic Information

Country and implementing institution(s):	**Timeline:**
China Ministry of Science and Technology (MOST) Ministry of Human Resources [later Ministry of Human Resources and Social Security (MOHRSS)]	2002 to the present (as of December 2016)
Target group	**Size and budget:**
Farmers in rural areas	Nationwide Budget unknown
Type of policy instrument(s)	**Inclusiveness focus**
Non-financial support: Counselling and training provided by S&T specialists	**Territorial inclusiveness**

Policy objectives

The envoy system aims to foster innovation among rural populations by dispatching S&T specialists to areas engaged in agricultural production and encouraging entrepreneurship through the use of S&T. The ultimate aim is to promote rural economic development by building an innovative and diversified agricultural system, based on a co-operative organisation framework and the participation of agricultural research institutions and agriculture-related enterprises.

Rationale

In rural areas agriculture still depends on outdated technology and lacks the expertise and resources to apply modern agriculture techniques. This hinders improvement in agriculture productivity. In 1999, an innovative practice launched in Nanping City, Fujian Province, encouraged a large number of qualified S&T specialists to travel to areas engaged in agricultural production. There they formed common interest communities to provide farmers with S&T services, including demonstrations, training and consultations. The outcome was a new network of S&T services designed to meet the requirements of a market economy. Villages with S&T envoys in Nanping increased their share of agricultural output as a result of technological improvements. The Ministry of Science and Technology (MOST) gave its approval and launched pilot projects in several other areas. On the basis of the results, MOST and the Ministry of Human Resources and Social Security (MOHRSS) rolled out the system nationwide in 2005.

Policy target recipient and selection mechanism

The policy targets the rural population nationwide and is open to all interested farmers without restriction.

Policy instrument(s)

Non-financial support: Qualified S&T specialists are dispatched to areas engaged in agricultural production to provide farmers with S&T services, including demonstrations, training and consultations.

The programme has passed through several stages:

- **The exploratory stage (2002-2003)**: In May 2002, MOST established the first pilot projects for an S&T envoy system in three provinces and two autonomous regions of northwest China. To better manage the work of S&T envoys, MOST set up an office for the pilot projects. During this period, S&T envoys began to focus on the use of financial tools (e.g. credit co-operative services) to promote the project's success.

- **The expanded pilot stage (2004-2007)**: The S&T envoy switched their focus from providing agricultural technology services to training farmers to establish themselves as S&T entrepreneurs. The number of pilot areas and S&T envoys increased correspondingly. By 2007, pilot areas covered nearly 1 040 counties in 31 provinces and the number of S&T envoys had risen to 57 000, serving more than 14 million farmers in about 40 000 villages.

- **The innovative development stage (2009-2011)**: S&T envoys were encouraged to set up agricultural development businesses and to promote "entrepreneurial action" throughout the country, with the support of an improved S&T service system in rural areas. The growth in S&T knowledge among rural residents led to the gradual expansion of entrepreneurial activities from agriculture to industry, and from rural to urban areas.

- **The institutionalised development stage (2012 to the present)**: The structure of China's S&T envoy system changed during this period. According to statistics, 44.82% of S&T envoys now come from public institutions, 16.13% from enterprises, 9.28% are university students and 16.22% are specialists in rural areas. About 44% of S&T envoys are engaged in paid services, including technical contracting, venture entities and other activities.

Policy challenges

- Adjustments to plantation and breeding structures and broadening of the scope of business operations have resulted in increasingly diverse and complex demands for technology development in rural areas. Such demands require superior skills and knowledge on the part of S&T envoys.

- The structure of the envoy system is still relatively loose. A statutory framework more suited to long-term tasks needs to be created.

- Lack of sufficient funding results in an absence of stable project support.

- The service platform must be improved to ensure a better environment for the S&T envoys.

Actions undertaken to address challenges

No data available.

Evaluation and outcomes of the scheme

The following conclusions regarding the current situation of the envoy system were obtained from data gathered through the 2014 provincial questionnaire.

Up to September 2013, more than 700 000 S&T envoys in agricultural areas worked with 38 000 enterprises or institutes, over 50 000 common interest communities, and more than 15 000 enterprises including 4 700 leading enterprises. Overall, the envoys implemented 45 000 S&T development projects. In addition, 35 000 associations and economic co-operative organisations were established with a total of 4 609 000 members. A group of 113 entrepreneurship chains was established at the national level, with the creation of 115 entrepreneurship bases and 81 entrepreneurship training bases. The envoy system also resulted in the importation of 61 000 new technologies and 68 000 new varieties of products, and the creation of 9 373 training bases for S&T envoys. There are now 8 124 information platforms on S&T entrepreneurship, 1 907 demonstration and communication platforms, and 16 000 S&T envoy serving stations. More than 60 million farmers have seen their incomes increase through the adoption of S&T.

In recent years, system envoys have actively engaged in the development of working S&T service models designed to address local conditions. Examples include expert compounds, S&T demonstration zones and IT co-operative organisations such as the "agricultural-technology 110 information service". New S&T service models that adapt to the development

characteristics of rural areas have also been created. Examples include S&T intermediary services, technology share funds, paid employment by enterprises, owned technology entities and paid contracting of S&T projects. This has enabled S&T envoys to form common interest communities with local farmers, professional households and leading enterprises. In addition, the S&T entrepreneurship service mechanism in rural areas has been adapted to create a sustainable policy system that supports the entrepreneurship service for S&T personnel. The system is based on the integration of government-driven and market-driven incentives, shared interests and risks, and a combination of encouragement and restrictions. Lastly, S&T envoys in rural areas organised the implementation of agricultural industrialisation projects. By focusing on regional strengths and competitive advantages, the envoy system cultivated a group of leading agricultural enterprises. Improvement in the S&T literacy of farmers also increased their capacity to profit from innovation. This made an active contribution to the development of overall labour quality in rural areas, enhancing the ability of farmers to avoid poverty and increase their earnings through S&T.

Sources

Wang, F., R. Wang, F. Sun, Z. Li, D. Liu, Y. Zhao, F. Liu, R. Guo, G. He, J. Hao, Y. Shi, Y. Li, N. Su, J. Fu, Z. Xu, X. Zhu, X. Lin, Y. Gao and Y. Zhu (2016), *Overview of Inclusive Innovation Policies in the People's Republic of China*, Chinese Academy of Science and Technology for Development (CASTED), Beijing, https://innovationpolicyplatform.org/system/files/imce/InclusiveInnovationPoliciesChina_FINAL.pdf

Information provided to the OECD by the Chinese Academy of Science and Technology for Development.

Background

*This document is part of a repository of examples of **innovation policies that have for explicit aim to contribute to territorial, industrial and social inclusiveness.** The repository is part of an innovation policy toolkit developed for the **Innovation for Inclusive Growth** project and gathers national innovation policy programmes that:*

- ***A.*** *Explicitly target **lagging and less innovative regions** (outside of regions that are highly innovative) or by design are more likely to support these lagging / less innovative regions.*
- ***B.*** *Explicitly aim to include in innovation activities **individuals and groups that are not usually participating** in those activities and in support of broadening the group of innovators.*
- ***C.*** *Explicitly aim to foster innovation activities in non-innovative firms, in particular by targeting **non-innovative sectors and non-innovative Small and Medium-sized Enterprises (SMEs).***

Policies are searchable by inclusiveness type, objective and implementation challenge on:
https://innovationpolicyplatform.org/inclusivetoolkit