

## **Policy Brief**

# Sino-German Agricultural Policy Dialogue to Promote Organic Residue Utilization in China



**Report by**

**DCZ**

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## Abstract

Agricultural Policy Dialogue (APD) aims to provide topical input on selected sustainability topics and to generate suggestions in the policy making process towards sustainable agriculture in China and Germany. The APD component in 2016 was held in three APD activity phases. In the first APD phase, a functional working group (WG) and working mechanism have been built up and WG agreed to further elaborate and investigate the topic “organic residues”. In the second APD phase, an agreement was made to produce a joint report, comparing the different policy approaches towards organic residue management in Germany and China as well as generating joint policy recommendations. In the last APD phase, the third APD meeting enabled the discussion of challenges and transfer of policy recommendations in the policy making process towards better utilization of organic residue in China. General policy recommendations and specific technique suggestion to improve straw, manure and plastic mulching utilization were stated by Chinese and German experts from leading institutions in the joint report.

## 1. Background

Pursuant to the first DCZ Project Steering Meeting in Nov. 2015, an agreement was reached to take up selected topics in the framework of the APD component: (i) assessment of agricultural policy instruments for sustainable farming and ecological production and (ii) innovation and knowledge transfer systems for ecological production and modern sustainable agriculture. In May 2016, an APD working group (WG), in collaboration with BMEL and Ministry of Agriculture (MoA) of China subordinate institutions, was consolidated for the exchange of country experiences and for the development of methodologies. Researchers from Research Center for Rural Economy (RCRE) of the MoA were proposed and selected in cooperation with Foreign Economic Cooperation Centre (FECC) as Chinese experts for APD activities.

## 2. Objectives

**Overall goals** of the APD are (i) to provide topical input presentations in the joint APD WG meeting on selected topics and (ii) to discuss challenges and transfer suggestions in the policy making process towards sustainable agriculture in China and Germany. The APD component in 2016 was held in three APD activity phases. The **first round of APD** activity was considered (i) to provide overview and orientation on the demands and needs of both sides, (ii) to identify efficient working mechanism in the frame of the APD and (iii) to determine concrete working emphasis for further APD activities. Purpose of **the second APD** activity in Aug. – Sep. 2016 was to further elaborate on the topic “policies and strategies for the reduction of organic residues (straw and manure) from agriculture and their improved use”. The outcomes of 1<sup>st</sup> and 2<sup>nd</sup> APD activities (discussion and recommendation) were summarized in a joint report by Chinese and German experts and presented in **the 3<sup>rd</sup> APD** meeting during the 2<sup>nd</sup> Sino-German Agricultural Week in Beijing, Nov.-Dec. 2016.

## 3. Activities and achievements

### 3.1. First APD activity phase, May 2016

23<sup>rd</sup> - 25<sup>th</sup> May. Excursion to Liaoyuan, Jilin Province.

26<sup>th</sup> May. Briefing with President Ke and Professors from China Agricultural University (CAU), Beijing.

27<sup>th</sup> May. Visit of researchers from Institute of Agricultural Economics and Development of Chinese Academy of Agricultural Sciences (CAAS IAED) at DCZ, Beijing.

28<sup>th</sup> May. Regional planning meeting for Liaoyuan Project with FECC of MoA, Chinese Academy of Agricultural Engineering (CAAE) at DCZ, Beijing.

30<sup>th</sup> May. First APD WP meeting, Beijing. The WG meeting consisted of four input presentations from German and Chinese experts, followed by in-depth discussion sessions and finalized with an agreement to focus on topic “organic residue utilization” in further APD activities. The presenters and their inputs were:

- Prof. Reiner Doluschitz, University of Hohenheim. PPTs: (i) Sustainability: accrument, development and current meaning in the agricultural and food economy (ii) Common Agricultural (CAP) and Rural Development Policy (RDP) of the European Union.
- Prof. Zhai Xueling, RCRE. PPT and Handout: Agricultural waste utilization in China, problems and thinking.
- Dr. Nan Ha, University of Hohenheim. PPT and Handout: Sustainability assessment systems – from theory to practical application to support sustainable agricultural production in China (Life cycle assessment, indicators, KSNL-system).
- Mr. Wen Chenghui, Liaoyuan Representative. Oral report: Local policies to support agricultural transformation towards sustainable production, a case study of “Modern Agricultural Ecological Demonstration District of Dongliao River Source of Liaoyuan City”.

### **3.2. Second APD activity phase and MoA delegation trip, Jul. - Sep. 2016**

27<sup>th</sup> - 30<sup>th</sup> Jul. Visit of a Chinese delegation from Department of Policy and Law, MoA to Germany.

29<sup>th</sup> Aug. Ouhua Farming and Animal Husbandry Co., Ltd, Langfang, Hebei Province. Field/ farm excursion with examples of waste management options.

30<sup>th</sup> Aug. Second APD WP meeting, Beijing. The working group meeting consisted of seven input presentations from German and Chinese experts, followed by in-depth discussion sessions and finalized with an agreement to produce a joint research paper, comparing the different policy approaches towards organic residue management and giving joint policy recommendations.

The presenters and their inputs were:

- Prof. Reiner Doluschitz, University of Hohenheim. PPT and Handout: Common Agricultural Policy (CAP), Cross Compliance (CC) and Rural Development Policy (RDP) of the European Union.
- Dr. Wang Huimin, RCRE. PPT: Agricultural waste utilization policies and regulations.
- Dr. Marco Roelcke, DCZ. PPT: Organic residue management options in a Chinese peri-urban region with high livestock densities.
- Dr. Yuan Ruiling, RCRE. PPT: Manure resource utilization options and cost-benefit analysis - A Case Study of Enterprise Survey.
- Mr. Horst Bunge, Farm consultant. PPT: Cost-benefit analysis of different alternative sustainable farm level production systems (crop rotations and/or recycling agriculture, integration of livestock) in Northeastern China.
- Mr. Thomas Illies, Team leader of Deutsch-Chinesischer Ackerbau- und Landtechnik Demonstrationspark (DCALDP). PPT: Best practice of straw management and specific technical solutions for straw processing.
- Mr. Stephan Illi, Organic farming consultant. PPT and Handout: Residue Management in organic farming – the CMC method for composting.

### **3.3. Third APD activity phase during the 2nd Deutsch-Chinese Agricultural Week, Nov. - Dec. 2016**

28<sup>th</sup> Nov. Internal program of Deutsch-Chinese Agricultural Week (DCAW): APD preparation meeting DCZ and RCRE on drafting final report and policy recommendations, Beijing.

30<sup>th</sup> Nov. Public program of DCAW: Presentation of results of APD - Sustainable Agriculture - Efficient Use of Organic Residues, Beijing. Prof. Doluschitz and Prof. Zhai presented the outputs of APD component in 2016 and policy suggestion on organic residue utilization.

## 4. Recommendations

### 4.1. Lessons learnt from experts' inputs

From the presentations and discussions the experts states the following recommendations:

#### **Policy recommendations:**

- To increase policy support and establish long-term policy support mechanism are essential to promote utilization of organic residue.
- "Cross compliance" concept should be introduced: comply with the rules → receive supports, fails to comply → no or less support.
- Policies should be better targeted, fairer and greener: moving from "decoupling" to "targeting", linking each component to specific objectives or functions. Objectives of policies should be viable food production, sustainable management of natural resources, and balanced territorial development.
- The income and spill-over effects of different types of payment or subsidy should be taken into consideration, when designing agricultural policies.
- To increase technical support and promote utilization demonstration are necessary.
- Increasing public and market participation to promote utilization of organic residue.

#### **For manure utilization:**

- Reduction of livestock densities in peri-urban region to reduce environmental impact; Increase of manure application to build-up of soil organic matter in outlying areas of the North China Plain with less livestock.
- The excessive manure should be processed and surplus nutrients exported out of the peri-urban region via marketable products. Selling price for compost production in place (Beijing 2016): 600 CNY per ton (480 CNY from subsidy, 120 CNY from farmers' work in compost production). Selling price can reach to 1000 CNY per ton.
- Good composting procedures or high-end biogas plants is possible to become economically attractive without subsidies in the future.
- Differences in farming practices should be taken into account when designing integrated nutrient management strategies on regional scale.

#### **For straw utilization:**

- The correct cultivation of straw mass into soil supports soil life and straw rotting, decreases evaporation or/and enforces faster infiltration of large water masses. The burning of straw kills the humus potential and contributes to air pollution.
- High cut decrease harvesting costs but also increases the costs for soil cultivation and sowing. This is convenient in extensive farming regions. Short cut, good crushing and dividing of straw on the field is a must for good management.

#### **For Northeastern China towards ecological production and environmental compatibility:**

- Climate and soil quality must ensure an ideal basis for developing a livestock breeding (beef, pigs and poultry). A balanced wide crop rotation is an important precondition to increase the yield and to reduce the costs. Monoculture has high

negative influence on soil erosion, soil compaction and biological activity. The required fodder Maize (corn and silage), Soybeans, Wheat, Alfalfa grows already in the Northern Provinces of China.

- Ecological farming requires a well-trained management, more than conventional farming. Only successful farms and manager should start with ecological farming.
- An ecological farming depends from the nutrient cycle arable farming and livestock breeding. If one starts it in a consequent and controlled way – there is no contradiction between ecology and economics.

## 4.2. Summary and recommendation for further APD

A highly fertile APD dialogue has been achieved in 2016: a functional working mechanism was built up and an exact APD topic was determined in the first APD meeting; experts with different backgrounds shared their rich experiences on the topic “organic residue utilization” in the second APD meeting; the outcomes of APD activities in 2016 and a joint report was presented in the third APD meeting, which enabled the transfer of policy recommendation in the policy making process towards sustainable utilization of organic residue in China.

However, it is observed that several suggestions could be given to improve effectiveness of the APD component in the future, for example, a knowledge gap between Chinese and German experts could be closed by conducting more comparative studies ahead of meetings; communication could be further improved by increasing face-to-face communication opportunities. The joint working plan should be updated in time and the importance of the working plan should be repeatedly stressed.

## 5. APD 2017 outlook

APD component in 2017 is currently in the final phase of planning. Several activities are determined as following:

- The APD in 2017 focuses on the topic “agricultural subsidies”, which was agreed by German and Chinese experts in the DCZ Project Steering Meeting in Jul. 2016.
- APD 2017 outline has been drawn up by DCZ and already revised according to discussion with MoA.
- DCZ has chosen Prof. Doluschitz and Dr. Hagel from University of Hohenheim as German experts for 2017 APD activities. The selection of Chinese experts is currently in process.
- 6<sup>th</sup> Apr. 2017, Workshop on “Agricultural subsidies in China” in DCZ office, Dr. Hu Xiangdong, together with Prof. Wang Jimin from CAAS IAED gave a presentation on “History and future prospects of subsidy policy in Chinese agriculture”. Participants include DCZ, FECC, CAAS IAED, GIZ and DLG.
- German expert Dr. Hagel will visit DCZ in May, 2017, give a presentation in workshop “EU subsidies” and discuss with DCZ on study trip’s preparation in Jun. 2017.
- In Jun. 2017, a delegation from MoA, FECC and APD’s Chinese counterpart will visit several institutions related to EU subsidies policy in Netherlands and Germany.
- In Aug. 2017, final workshop of APD 2017 will be held to discussion lesson learnt and suggestions of 2017 APD activities.

## 6. APD 2018 outlook

The Animal Breeding Project organized several Manure Management Seminars in 2017 with the involvement of DCZ and Chinese partners. The involved stakeholders showed strong interest to further discuss issues beyond manure and straw management, such as environmental

protection/environmentally friendly techniques and management approaches for large livestock farms in China.

The Sino-German exchange and dialogue will continue the discussion on organic residues management and will add the following aspects:

Livestock management standards: What is location-oriented production and feeding standards and regulations, how is animal health and welfare legislated, defined, promoted and implemented? What role does livestock farming play in climate protection? What are organic livestock production standards?

Policies and regulations: What is the environmental legislation and regulations for livestock farming in Germany and China related to sustainable management of resources soil and water. How are different stakeholders regulated? What are major challenges?

Outputs will focus on:

- GFFA 2018 China panel on shaping the future of animal production (with Animal Breeding Project) to launch APD discussions on the topic
- Study on environmental legislation and regulations for livestock farming in Germany and China (also e.g. to reduce emissions from livestock production)
- Joint policy brief (with experiences from Animal Breeding Project) is drafted, discussed and brought forth to relevant policy-making authorities.
- Intensive exchange is further deepened among stakeholders from the demo project cooperation and the policy level.