

## Organic Agriculture in DPRK A Strategy for Sustainable Development

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### Author's Background

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### Summary

*In DPRK, organic agriculture (OA) can contribute to the sustainable development of agriculture and is encouraged by the Government. The conditions are favorable to develop laws for the organic sector, which has several strategic characteristics. The Organic Agriculture Development Association of the DPRK (OADA) presents its activities and plan for the development of OA. OADA has registered remarkable success in the past ten years, but still faces challenges.*

### Background

To promote the sustainable development of agriculture, we must meet all the demands for environment protection and food security. In this respect, organic agriculture (OA) is not merely technical progress, but a key sector. In DPRK, OA is seen as sector for contributing to the sustainable development of agriculture and is encouraged by the Government. Here are projects and activities that local stakeholders, in particular OADA, promote as the strategic basis for the sustainable development of agriculture.

### Main chapter

The integrated agro-livestock production system is at the basis of the strategy and means an efficient management system for recycling of material and energy by linking crop cultivation and livestock. When we establish this system and do a good multilateral farming management, we can increase grain production and also income and improve our farmers' living standard. This system is based on reusable resources in rural areas, making a rational diversification of the agricultural production structure to suit the geographical condition; on creation of reasonable ratio of farming to stock-breeding; on production of food and feed with fertilizer and pesticide made by farms; on linking field and green house productions and use of recycling energy, etc.

It can reduce dependence on synthetic inputs, resulting in increased knowledge and better natural resources management in rural areas. Each rural area can therefore improve sustainability and self-supporting of its agricultural production, reduce the cost and increase its income, ensuring sustainable food security. This system can be established in one *ri*<sup>2</sup> as unit or with two or three neighboring *ris* as a unit. We can select one *ri* with favorable resources and geographical condition and build a stock farm, a leftovers processing facility and natural resources management in a concentrated way. Homemade manure produced here and natural plant protective materials are used for agriculture in two or three neighboring *ris*. This combined system is suitable for our country, where most *ris* have different resources and geographical conditions.

The organic industry of DPRK is still at the initial stage<sup>3</sup> and has a unique character as the announcement of the law preceded the development of the foundations. Experiences of other countries show that the announcement and development of the law is important to overcome complications and to develop the sector in a unified way. The proclamation of the law can incite rapid development of the sector and help overcome negative inclinations in the process systematically. Great successes could be achieved in understanding and disseminating awareness.

For the systematic development of organic agriculture, OADA elaborated in 2005 a three-stage plan based on: foundation building, structure development, dissemination and expansion. Activities are being conducted briskly to develop the basic theory and techniques in accordance with the realities of our country. Projects are planned in each field for production of organic goods, and the activities for technical cooperation are being intensified to introduce advanced techniques. The standards of ISO, GAP, and HACCP were regulated as the state standards.

Production of organic fertilizer and bio pesticide, which make the basis of organic production, rapidly increased and publications were written or translated and have been disseminated. International workshops on organic agriculture are organized every year. Efforts to establish a training and research center are being made, with the objectives to complete and implement a "Plan for Research and Development of Organic Agriculture", to develop organic agriculture standards and rules for implementation of the law that can be internationally recognized, develop a certification system, help the

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<sup>2</sup> A *ri* or village is an administrative division of the territory in DPRK at the submunicipal level, part of a neighborhood (*tong*) in a town (*ŭp*).

<sup>3</sup> The Law On Organic Industry of DPRK was proclaimed on November 23, 2005.

domestic organic producers by improving the dissemination of organic agriculture, and to gain better understanding of special demand for organic agriculture and international market.

The EU funded partnership project "Bridges for Organic Knowledge in Korea (BOKK)" is being implemented by IFOAM and Pyongyang International Information Center for New Technology and Economy (PIINTEC) together with the DPRK stakeholders. BOKK will provide technical training, institutional strengthening and promote networking on organic agriculture among various institutions within the country, but also with regional and international partners. This will contribute to improved food security through increased sustainable food production in the country. A detailed analysis of the national organic situation was drawn up and the training of various stakeholders was conducted in 2011 in China. In 2013, with the participation of Mr. Andre Leu, IFOAM President, the introductory workshop on organic agriculture was held in Pyongyang and the "Capacity Building and Networking Centre" was established.

There are various issues concerning soil protection and fertility. The Association for soil protection and fertility has developed a plan with the following key elements: bio-organic fertilizer; nano activated water fertilizer; green manure and crop rotation; various plant preparations; organic and inorganic fertilizer.

OADA developed the bio-organic fertilizer in Ssangun Organic Experimental Farm in 2006 and it has been introduced in other farms. This is a soil fertilizer made by mixing various sorts of efficient and useful microorganisms with organic fertilizer to improve the soil ecology and adaptability of crops to environment, taste and quality of products. The nano activated water fertilizer has been developed in Ssangun Organic Experimental Farm in 2012. This is a new energy-saving and low-input fertilizer, made by lowering the association rate of water and changing the water structure favorable for physiological activity of all organisms. This helps crops and other organisms increase their own viability and input efficiency and it is being tested in various farms to ensure productivity and protect environment.

Green manure and crop rotation are used to protect soil, prevent damages of repeated cultivation and enhance soil nutrition. Green manure cultivation as first crop and rotation are being tested in accordance with our country characteristics in a limited cultivation area. Sukchon Agricultural University (OADA) developed various plant preparations based on local resources for plant protection since 2008. Organic and inorganic fertilizer which combine organic matter and very limited chemical fertilizer have been developed in 2010 to make high and stable yield in conventional agricultural system.

### **Core messages and conclusions**

The development of organic agriculture in the DPRK has several characteristics:

- It does not pursue separate campaigns but seek for the systematic development giving priority to law and regulations from the beginning.
- It takes an active role in laying down the foundation for sustainable development of agriculture for the country's food security.
- It actively researches and develops organic production techniques in producing the main crops, such as paddy field rice and corn, while giving importance to qualitative and quantitative improvement of foodstuff for the stable living of people before making profits in markets.
- It enjoys full support and assistance from the government.

OADA has had remarkable successes in the past ten years, but it has still challenges in its work. The basic technology development of organic agriculture including seed breeding and cultivation technology is young. Research in this area is not promoted while the development and introduction of the organic fertilizer and pesticide are partially conducted. Education and dissemination of organic agriculture are not fully developed. International exchange through cooperation and trade is still at initial stage and has thereby lack of advanced technique, experience and knowledge.