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# JICA's Position Paper on Agriculture and Rural Development

## 1. Introduction

Aid for agriculture and rural development in developing countries increased from the late 1960s to the early 1980s in order to support the so-called "Green Revolution" against a backdrop of the food crisis of the early 1970s. The support was provided for policies aimed at increasing agricultural productivity and for comprehensive rural development, centered on the introduction of high-yield varieties and investment in production infrastructure. Subsequently, certain improvements were observed in the overall supply and demand of food. After that, against the backdrop of a downturn in the international market for primary products, there were structural adjustment and competition with the support for social sector, and so assistance for agriculture and rural development decreased. Following the turn of the century though, the issues such as an increase in consumption in emerging countries and problems surrounding biofuels saw international prices for food gradually start to rise again, and steep rises in prices since 2008 has resulted in momentum gathering for the development community to re-evaluate their support in the area of agriculture and rural development.

This position paper describes the general direction adopted by the Japan International Cooperation Agency (JICA) for initiatives in the area of agriculture and rural development.

## 2. Objectives of agriculture and rural development

### (1) Stable supply of food

In 2011, the world's population surpassed seven billion people. According to estimates of the Food and Agriculture Organization (FAO) of the United Nations (UN), this is expected to reach 9.1 billion people in 2050, and it is predicted that food production to provide for such a population will have to increase by approximately 60%. Furthermore, the number of undernourished people in developing countries remains at a high level, estimated to be 852 million in 2010-2012. Regionally, the most serious areas affected by famine, where undernourished persons account for at least 35% of the total population, are concentrated in Sub-Saharan Africa (WFP (2011)). Coupled with this, in recent years, there have been frequent disasters such as droughts in areas including the Horn of Africa and the Sahel. In addition, steady progress has not always been made in reducing the proportion of undernourished persons in other regions, such as in the Middle East and in South Asia.

Given the situation outlined above, the first objective of agriculture and rural development is to achieve a stable supply of food to residents of both rural and urban areas.

Furthermore, contributing to the stable supply of food in developing countries will also lead to stability in the global supply and demand of food, and by extension, to food security in Japan, which relies on imports for much of its food.

(2) Contribution to economic growth and poverty reduction

Even though the proportion of people in developing countries living in extreme poverty on an income of no more than $1.25 per day has been decreasing of late, in 2008, this population still numbered about 1.3 billion (22.4% of the population of developing countries), and it is forecast to reach about 1 billion (16.3%) in 2015. Regionally, the impoverished population is concentrated in the Sub-Saharan Africa and in South Asia (about 75% in 2008, and 80% in 2010) (World Bank (2012), UNDP (2012a)). Three out of four people in the impoverished classes live in rural areas, and most of them depend on agriculture to make a living.[1] There have also been reports that the effects of poverty reduction that is brought about by growth driven by agriculture are no less than double that for growth driven by the non-agricultural industrial sector (World Bank (2008), Barrett, Carter and Timmer (2010)). Furthermore, in countries with low income levels, such as those in Sub-Saharan Africa, the proportion of GDP accounted for by agriculture is high (about 25% in low-income countries), and so, in many cases, agriculture is expected to act as a major source of economic growth.

In addition, instead of merely agricultural production, by having the entire value chain at work—namely, agricultural inputs, agricultural production, processing, transportation and storage, and marketing and distribution—a greater economic benefit can be derived. One report asserts that, particularly in middle-income countries, the proportion of the economy accounted for by the extended agricultural sector, which includes agriculture-related industrial sectors, is greater than 50% larger than the agriculture alone (World Bank (2008), De Ferranti et al. (2005)). Moreover, even greater economic benefit can be expected if new businesses can be expanded, such as the utilization of unused biomass which until now had not always been fully utilized, the provision of plants to pharmaceuticals, etc., tourism utilizing the natural environment and landscapes discussed below, the utilization of mobile phones, and management incorporating up to the processing and distribution by producers. What is more, these activities will also contribute to increased employment in rural areas.

Furthermore, from the perspective of vitalizing rural areas or increasing employment, in addition to these activities, the promotion of non-agricultural industries is also important. To this end, improving the investment environment, including infrastructure development, and providing people with education and training for finding employment are particularly important elements.[2]

Through activities like those described here, agriculture and rural development will contribute to the economic growth of developing countries and to reducing rural poverty.

(3) Various functions of agriculture, climate change measures, etc.

1 Findings of analysis based on 2002 data by Ravallion, Chen and Sangraula (2007).
2 The issue of urban migration also needs to be considered for increasing employment.

Agriculture is the act of manipulating nature and leveraging that force to produce a harvest. Intrinsically, therefore, not only is it affected *by* nature, but it can also have a significant influence *on* nature. There are many examples of inappropriate agricultural practices that cause loss to natural resources and have a major impact on the lives of local communities. For instance, improper irrigation can accelerate the scarcity of water; the uncontrolled expansion of farmland and ill-managed farming can lead to deforestation, a decrease in biodiversity or soil erosion; and the excessive use of fertilizers and agrochemicals can lead to the contamination of water or soil.

In contrast, the diverse benefits that can be provided by agriculture which is conducted in a sustainable manner in harmony with nature are also widely recognized. Functions of agriculture include: conservation of national land, the development of water resources, the preservation of biodiversity and ecosystems, the conservation of air, soil and water quality, and the preservation of landscapes.[3] Discussion is currently underway at the Organization for Economic Cooperation and Development (OECD) and other organizations on policy approaches for demonstrating these benefits in a highly transparent manner that does not impede the market.

Ensuring and exerting these functions through agriculture and rural development in this way will help to preserve the natural environment, etc. Agriculture and rural development will also help with climate change measures from both mitigation and adaptation aspects.

## 3. Characteristics of agriculture and rural development

### (1) Greatly affected by the geographical conditions

Production technologies that can be applied in agriculture vary greatly depending on geographical conditions such as climate, topography, soil fertility and water resources. More often than not, the success of a technology in one region cannot be reproduced in another. Moreover, differences in climatic conditions mean that there is no guarantee that a certain technology will produce the same results even in the same region. For this reason, for each project, it is necessary to try and substantiate introduced varieties and production technologies that are suited to the target area before establishing appropriate technology systems.

### (2) Distinctive quality of farm households

Farm households tend to take actions based on the characteristics of agriculture and on their own economic environment. While these actions may sometimes be perceived as being inefficient, in many cases it is a necessary choice. For example, because new technology involves uncertainty in specific environments, the dissemination of a new technology frequently proceeds at a slow pace as farmers watch and wait, thinking about whether to adopt the technology themselves while they learn from the results of others. Furthermore, in low-income countries such as in Sub-Saharan Africa, where access to credit and insurance markets is restricted, farmers choose technologies that

[3] For example, the OECD (2001) gives the following as examples of some of the non-agricultural effects related to agricultural production: scenery, diversity of species and ecosystems, soil quality, water quality, air quality, water use, land conservation, greenhouse gases, rural revitalization, and cultural heritage.

have low rates of return but which also involve low risk (World Bank (2008), de Janvry and Sadoulet (2006)). Therefore, in order to encourage action needed for farmers to increase their income, such as the introduction of a new technology or the appropriate technology, it is important to first analyze the constraints on the side of farm households through adequate economic and social surveys as well as farming surveys. At the same time, in order to broaden the choices of technology for farmers to consider for adoption from financial and risk management perspectives, it is important to also consider providing support for the development of systems such as agricultural credit and agricultural insurance.

(3) Need for long-term commitment

Given that agricultural production activities are greatly influenced by geographical conditions (see 3.(1) above), and given that they have a production cycle of, at most, one, two or three times a year, it will take a long time before development efforts exhibit a beneficial effect.

4. International efforts for supporting agriculture and rural development

The problem of soaring food prices has been discussed as a priority issue at international meetings such as G8 and G20 since prices surged in 2008.

At the G8 Summit in L'Aquila, Italy, in July 2009, the L'Aquila Food Security Initiative (AFSI) was announced. In addition to the importance of safety nets, trade policies, and global partnerships, etc., the initiative emphasized increasing investment in agriculture. Donors declared that they would mobilize US$ 22 billion over three years for sustainable agriculture development. Then, at the FAO World Summit on Food Security in November 2009, the "Five Rome Principles for Sustainable Global Food Security" were adopted. The five principles are: investment in each developing country's own plan; strategic coordination at the national, regional and global level; a comprehensive twin-track approach (consisting of direct action to immediately tackle hunger and medium- and long-term agriculture development); ensuring a strong role for the multilateral system; and sustained and substantial commitment by all partners to investment.

Even after that, interest among the international community remained strong, buoyed by the continuing high food prices. At the G20 Summit in Cannes, France, in 2011, the Action Plan on Food Price Volatility and Agriculture was announced. While the action plan recognizes the importance of improving agricultural production and productivity, it focuses more on measures for countering the shock of fluctuating food prices. It includes reducing the effects of price volatility for the most vulnerable, centering on: better market information and transparency as typified by the Agricultural Market Information System (AMIS) and the Global Agricultural Geo-Monitoring Initiative; international policy coordination, including establishment of a Rapid Response Forum for discussions by relevant countries at times of soaring food prices; an agriculture and food security risk management toolbox; and emergency humanitarian food reserves.

At the G8 Summit held at Camp David in the United States in May 2012, the New Alliance for Food Security and Nutrition was announced for food security in Africa. The aim of this initiative is to lift 50 million people out of poverty over the next ten years through

improvements in food security and nutrition. The program has a particular focus on promoting the participation of private enterprises, and it proposes: the mobilization of private capital, such as through expansion of the Global Agriculture and Food Security Program (GAFSP); technological innovation, such as through the establishment of the Scaling Seeds and Other Technologies Partnership; the reduction and management of risk, such as through the establishment of the Platform for Agricultural Risk Management (PARM); and the reinforcement of linkages with nutrition. Agreements for a cooperation framework have also been concluded and implemented for the six pioneering countries of Ethiopia, Ghana, Tanzania, Cote d'Ivoire, Burkina Faso and Mozambique. Japan is the joint lead with the US for Mozambique. The written agreements include specific declarations of intent by individual private enterprises, as well as by each government and donors.

## 5. Past achievements and lessons learned

### (1) Achievements

#### (a) Halving the percentage of people living in poverty

Of the Millennium Development Goals (MDGs) closely related to agriculture and rural development, it has been reported that the MDG 1 goal of "halving the global percentage of people living in poverty by 2015" was achieved for the world as a whole in 2010 (World Bank (2012)). The contribution of agriculture and rural development to this point is not insignificant. Nevertheless, looking at the results region by region as mentioned previously, there are still some regions, such as Sub-Saharan Africa and South Asia, where the goal has not yet been reached. Further efforts are still needed by the international community.

#### (b) Halving the percentage of undernourished people

It goes without saying that agriculture and rural development contributes greatly to increasing the volume of food supply to address the many years of increasing demand, and to decreasing the proportion of undernourished people. With respect to another of the MDG 1 goals of "halving the global percentage of people who suffer from hunger by 2015," it has been estimated that the 23.2% of 1990-1992 had decreased to 14.9% in 2010-2012 (FAO (2012)), and so further concentrated efforts are needed to achieve this goal. There is also a growing awareness of the importance of the linkage between food supply and nutrition.

#### (c) Growth rate of the agricultural sector

With respect to the question of what growth rate should be achieved for the agricultural sector, different countries have different aspects to consider, such as the status of the agricultural sector and the potential of agriculture. Nevertheless, the following examples should help. Under the Comprehensive Africa Agriculture Development Programme (CAADP), which covers Sub-Saharan Africa, the target agricultural growth rate is 6%. Under the World Bank's Agriculture Action Plan 2010-2012 (World Bank (2009)), the target has been set at 5%. Using a target of 5%, if we look at the 40 year period between 1961 and 2011 and consider the percentage of years in which individual countries achieved the target, we see that 11.3% of all

developing countries achieved the 5% target in at least half of the years. Furthermore, for low-income countries, where, more often than not, the coverage of the agricultural sector in total GDP is relatively large, the figure was 14.7%. If we narrow our observation to the period since 1990, the figure was 16.5% for all developing countries, and 32.4% for low-income countries. Moreover, if we change the parameter to countries that achieved the target in at least 40% of the years, the figure is 31.5% for all developing countries, and 47.1% for low-income countries, meaning attainment for nearly half of all low-income countries. While achieving an agricultural growth rate of 5% will not always be easy, continuous efforts are needed.

(2) Lessons learned

(a) Support focusing on increasing productivity

In order to achieve a goal of realizing economic growth and reducing rural poverty through a stable supply of food and agricultural promotion, entire value chains, from inputs through to production and distribution (from upstream to downstream), need to be improved. Looking back at JICA's projects for the past 20 years in the area of agriculture and rural development (namely, technical cooperation, loan aid and grant aid provided on a project basis, excluding the dispatch of individual advisors, etc.), the majority of projects are accounted for by support in areas that relate directly to production and productivity increase, such as farmland development and irrigation/drainage, agricultural machinery and agricultural materials, development and dissemination of technology, and livestock, as well as by support in the area of rural development, including rural infrastructure and community development. On the other hand, relatively there has not been much in the way of support for policies and systems, such as legal systems and institutions, development plans and land management, support in the areas of distribution and agricultural processing, and support in the area of finance. In many respects, it appears that this is founded on the past experience in Asia during the 1970s and 1980s when JICA used to mainly assist that region, where a positive effect was produced because the government shouldered the burden for a substantial portion of the package of research and development, dissemination, improved seeds, fertilizer, finance, storage and distribution, which was necessary to increase the volume of grain production, as typified by the Green Revolution, and the private sector also took on distribution, etc. (Hazell (2012), or Rai (2007) in the case of Indonesia), and therefore even if JICA was to concentrate on the parts directly related to production, the other parts were also separately covered.

Now, though, in Sub-Saharan Africa where the stable supply of food is a key issue, it would appear that, to begin with, it is appropriate to focus on support which contributes to increased production and increased productivity. However, since the markets in this region have often not necessarily been developed properly, it is also necessary to simultaneously look at distribution aspects including agricultural processing and finance aspects. Furthermore, in more advanced countries as described later, it would appear that, more than support in areas that relate directly to production and productivity increase, support needs to be focused more on high-value-added agriculture, the quality and the safety of farm produce and distribution and other needs. Moreover, the current progress of economic globalization has also resulted in an increase in situations where these needs are

satisfied by way of trade. For this reason, the export of agricultural produce presents an enormous opportunity for developing countries, and so support for this is also needed.

(b) Strengthening macro perspectives

As discussed above in the analysis of JICA's projects in the area of agriculture and rural development, policies and systems related support was also relatively limited. By further expanding analysis of the overall agricultural sector in the target country, as well as consideration of medium- and long-term development strategies based on this analysis and the formation of projects based on this consideration, and by providing packages of support for both policy and system aspects as well as implementation aspects, it should be possible to enhance the effectiveness of development. Possible specific examples of policies and systems related support include improving administrative capabilities, policy advice such as for policies on food supply and demand and for the stabilization of food prices, budget support for agricultural programs, and land policy (for instance, realization of the Principles for Responsible Agricultural Investment (PRAI) at the national level).

(c) Response to changes in the status of agriculture and rural development in each country's overall development policy

As mentioned in (2)(a) above, the majority of JICA's agriculture and rural development projects over the past 20 years can be accounted for by support in areas that relate directly to production and productivity increase and by support in the area of rural development. Even if we divide this trend up into five-year blocks, despite some variation in the breakdown of support, there has been no significant change to the overall trend. Meanwhile, many countries, especially emerging countries, have achieved remarkable growth particularly in recent years, and as a consequence, they have experienced changes in how they position agriculture and rural development within their development policies and changes in their policy priorities as described below. Rather than merely adopting its usual approach, JICA will need to develop systems so that it can respond to the current needs of these developing countries.

6. Future direction

(1) Cooperation in view of entire value chains, combined with improving agricultural productivity

Bearing in mind JICA's track record in the development and dissemination of agricultural production technologies, backed by many years of experience in Asia and other regions, and in view of Japan's comparative advantage in human resources, knowledge and know-how in rice cultivation, JICA will work on support for increasing agricultural productivity. When providing this support, JICA will examine entire value chains, including agricultural inputs, processing, distribution and sales as well as the promotion of related agricultural industries, before selecting areas for improvement and supporting them.

(2) Response to global issues

(a) Response to soaring food prices

Food prices rose rapidly in 2008, then plunged temporarily in 2009 as a consequence of the Lehman shock, before beginning to rise again at around the end of 2010, eventually surpassing the levels of 2008 in early 2011. Moreover they spiked again in 2012. At present, they are still stuck at high levels. At the national level, these high prices have consequently led to fiscal deterioration, commodity price rises and destabilization of administrations in some cases, and at the household level, they have led to a decline in the quantity and quality of diet, undernourishment particularly among the socially disadvantaged, a reduction in spending on education and health, and a decrease in household purchasing power.

The cause for soaring food prices is considered to be the combination of two kinds of factors. One is the structural factors which include the "thin" and volatile structure of international markets, the increase in demand shown by emerging countries, medium- and long-term constraints on the supply side, and the pressures of increasing demand stemming from expanded biofuel production. The other is the short-term (shock) factors, for instance, damage attributable to unseasonable weather or natural disasters, feverish speculation and steep rises in energy prices.

In order to address these problems, in addition to improving agricultural productivity and self-sufficiency through the establishment of agricultural production bases in developing countries, support needs to be provided to strengthen their capacity to deal with shocks such as surging food prices and unseasonable weather.

One specific example of JICA's activities is the Coalition for African Rice Development (CARD). The goal of CARD is to double the annual rice production of Sub-Saharan Africa in the ten years from 2008 to 2018, from 14 million tons to 28 million tons. Jointly proposed by JICA and the Alliance for a Green Revolution in Africa (AGRA), CARD has attracted the participation of no less than ten donors, including the Africa Rice Center and the World Bank, and is promoting support for 23 African target countries.

(b) Climate change measures

Agriculture is greatly affected by global warming. It has an important function to play in climate change adaptation measures. For instance, the provisions prescribing the objective of the United Nations Framework Convention on Climate Change (UNFCCC) clearly state, "a level that would prevent dangerous anthropogenic interference with the climate system… should be achieved within a time-frame sufficient to ensure that food production is not threatened." At the same time, agriculture accounts for approximately 14% of sources of greenhouse gases, making it one of the major contributors, and meaning that it also has many areas that could contribute to mitigating climate change. JICA will promote cooperation that contributes to adaptation measures, such as through irrigation and water management, variety improvement and pest and pathogen control, as well as to mitigation measures, such as the use of bioenergy and better conservation and management of farming land.

(3) Appropriate approach suited to the actual state of agriculture and rural development of the country (development situation)

The changing roles of agriculture and rural development during the process of a country's economic development by and large follow the course outlined below, although vary in certain respects depending on the international economic environment and on the conditions of the respective country's natural and economic environment.

In countries with a low income level, usually the role of the agricultural sector is very large and agricultural development has a high priority. The reasons for this include food security for the people, the contribution of the agricultural sector to economic growth, and maintenance of the livelihoods of people living in rural areas, which usually make up a large proportion of the country.

During the subsequent process of economic growth, as the manufacturing industry, service industry and other non-agricultural industries expand, the growth rate of these industries will surpass that of agriculture, and the labor force will migrate to those industries from the agricultural sector. As a result, the portion of the national economy contributed by agriculture will decrease. In addition, the proportion of labor force in the rural sector will also decrease.

Meanwhile, as a consequence of the increase in national income, the food preferences of the people change. Demand for livestock products and high-value-added farm produce such as vegetables and fruit will increase from a diet centered on grains, and there will also be a growing interest in food quality and safety.

Then, as this economic growth leads to a change in the status of agriculture in development policies, the focus on agriculture and rural development will also change. Consequently, the cooperation suited to these changes is needed. The specific direction for the cooperation is outlined below. However, since there are no strict standards for classifying individual countries, and since conditions vary even within a single country such as according to suburban areas, plains, highlands, mountainous areas and disadvantaged areas, rather than a single direction that applies uniformly to the country as a whole, approaches suited to the relevant conditions will also be needed.

(a) Countries where subsistence agriculture dominates

There is a strong need to raise food self-sufficiency, especially for grains, and establish a stable supply of food, and the contribution of the agricultural sector in economic growth is high (generally mostly low-income countries).

(i) Description of support

Focus on increasing the volume of production by expanding the area of cultivated land and improving crop yields, especially for grains. Aim to establish sustainable systems, such as the development and dissemination of low-input technologies with a mind to the technology level and income level on the part of the developing country. Also contribute to the development of related value chains.

(ii) Stance of support

Depending on the circumstances, think flexibly about such basic principles as ownership and self-help efforts taking into account the weak systems on the part of the developing country, and predominantly provide support with a focus on grant aid (technical cooperation and capital grant assistance) until outcomes such as improvement of food supply become apparent from a humanitarian point of view.

(b) Countries that are in transition to commercial farming

As grain production increases and farmers have an increasing surplus to sell, the demand by consumers for farm produce (including for the diversification from grains to vegetables and other crops) will also increase as a consequence of increased number of non-farming families and better income levels. (generally mostly between low-income countries and lower middle-income countries).

(i) Description of support

Support to further improve the productivity of grain from the perspective of securing a stable supply of inexpensive food at a national level and of securing room to diversify produce. (It is possible to introduce more costly technologies at this stage.) Meanwhile, in suburban areas and other suitable locations, support the introduction and production increase of high-value-added crops. An important issue for farmers will be to acquire management knowledge and to constantly supply farm produce to consuming regions in the required volume when needed responding to the change at consumer needs.

(ii) Stance of support

With respect to financial assistance, depending on the country, suggest projects financed through loan aid while continuing to also provide grant aid, while also fostering the ownership on the part of the developing country.

(c) Countries where agriculture is centered on commercial farming

Grain self-sufficiency has been virtually achieved, the number of full-time grain, vegetable and livestock farm households has increased, and the ratio of subsistence farm households has decreased. Meanwhile, the demand structure has transformed further. For instance, diet has become more diversified due to the growth of the middle class in urban areas, there has been an increase in consumers' preference for quality and safe farm produce, and there has been a further increase of non-home meals consumption (large supermarkets, food service industry, etc.) (generally mostly upper middle income countries or higher).

(i) Description of support

One issue amid globalization of the supply and demand for food is to secure the agricultural competitiveness of the country while also contributing to the food security of other importing countries. Greater importance will also be placed on responding to the above mentioned diversification of diet, increased preference for

quality and safe farm produce and the increase of non-home meals consumption. Support for tackling these issues also contributes to coordination for win-win outcomes based on relationships of trust with relevant organizations in the country which have been established through the course of many years of cooperation. Furthermore, the country can serve as a cooperative partner supporting the agricultural development of low-income countries, etc.

(ii) Stance of support

Focus on support for private-sector activities as well as loan aid and technical cooperation while emphasizing ownership on the part of the developing country. Maintain networks with relevant organizations through support, also bearing Japan's food security in mind.

(4) Promoting participation of the private sector

The main processes and elements related to agricultural production include input of agricultural production goods (seeds, fertilizer, tractors and other agricultural machinery), research and development of agricultural technology, extension, production, post-harvest processing, distribution, finance, and the development of related infrastructure. In addition to public organizations, private enterprises are usually involved in each of the processes and elements.

Among developing countries, there are cases where agricultural production does not increase partly because the private sector has not developed sufficiently. Therefore, when providing support for agriculture and rural development, projects have to be carried out while also giving consideration to encouraging the participation of private enterprises.

Furthermore, in order to successfully promote agriculture and rural development in developing countries, as it is very important to have support for small-scale farmers, which form a large majority of the agricultural sector, private investment in production should also be planned for benefits to small-scale farmers. Everything possible needs to be done though to prevent any development that does not benefit small-scale farmers as well as any "land grabs" whereby private capital is used to finance the haphazard acquisition of large plots of land. Internationally, there is support for promoting the *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests* and the trial use of the *Principles for Responsible Agricultural Investment (PRAI)*. For example, JICA is assisting agricultural development in the Nacala Corridor of northern Mozambique by drawing on the knowledge from agricultural development in Cerrado, Brazil through trilateral cooperation between Japan, Brazil and Mozambique. In this program JICA will promote poverty reduction and food security for local small-scale farmers and also contribute to the economic growth of the area inviting private sector. As part of this, JICA is also considering recommending systems whereby the above guidelines and principles can be realized.

Furthermore, private enterprises in Japan are also moving forward with investments in developing countries in such areas as seed, fertilizer, agricultural machinery, production, post-harvest processing, distribution, and food processing. JICA will also implement

programs while bearing cooperation with these private enterprises and further promotion of investment in mind.

(5) Strengthening resilience

As mentioned in the section on responding to soaring food prices, it is extremely important to strengthen the capacity of developing countries to deal with surging food prices and shocks such as unseasonable weather. The importance of strengthening resilience has been further heightened particularly by the damage sustained in the recent Great East Japan Earthquake and Thai floods, and also by the damage caused by the recurring droughts in the Horn of Africa. Specific actions include policy advice that covers stabilization of food prices, improvement of irrigation and other facilities including disaster prevention aspects, variety improvement and dissemination, the development of agricultural statistics and storage facilities, strengthening the community's capacity to respond to these kinds of events, and the examination of weather insurance.

In terms of agriculture and rural development measures to cope with the Thai floods, JICA provided support to meet short-term needs, including support for the recovery of productivity in pasturelands in order to secure animal feed which has been in short supply because of flood damage as well as support for the restoration and repair of damaged irrigation and drainage facilities. In longer term perspective JICA also supports the improvement of the crisis management capacity of residents aimed at fostering agriculture and rural development that is resilient to disasters. Furthermore, in terms of medium-term measures dealing with drought in the Horn of Africa, JICA is currently supporting activities of stable agricultural production such as through the development of a livestock marketing environment, the development of water infrastructure for agro-pastoralists engaged in farming and consideration of weather insurance in areas of Kenya and Ethiopia where pastoralists have been the main victims of drought.

(6) Peace building

In most cases, agriculture and rural development is important for post-conflict countries, such as countries where the agricultural sector is one of key industries, and countries where conflict has meant that no other industries of note have developed. JICA will give priority to this type of assistance for such countries as Afghanistan, Iraq and South Sudan.

(7) Strengthening the program approach, and promoting domestic and international cooperation and coordination

JICA plans and implements individual projects under medium- and long-term scenarios, based on the characteristics of agriculture and rural development, and in line with an approach suited to the development situation mentioned in (3) above. Where necessary, these scenarios are not limited to just the agricultural sector. They also need to take into account water resources development, education and health, transport infrastructure, information and communications, energy supply and other such factors in rural communities. Relevant issues and schemes should be clearly defined and prioritized, and projects have to be managed to address those specific issues. In recent years,

because JICA has not necessarily implemented a large number of loan aid and grant aid projects in the area of agriculture and rural development, it will work to form programs that include financial assistance in order to enhance the development effect. JICA will also consider enhancing the development effect by packaging support for policy together with support for implementation.

JICA will contribute to the development of international frameworks such as by actively communicating knowledge gained through projects in the international arena. It will also promote cooperation with other donors in order to improve the development effect.

Domestically, JICA will strengthen its alliances with the private sector, universities, local governments and non-governmental organizations.

## 7. Region-specific issues

The issues for each region are described as follows. However, a response suited to the conditions is needed due to the variance in conditions depending on the country and district.

### (a) Southeast and East Asia

For higher income countries, it is important to improve distribution that includes securing the quality and safety of farm produce and to improve regions that are lagging from a social equity point of view. For lower income countries, the main issue is rural development for increasing the productivity of food crops and for rectifying internal disparities. Furthermore, the development through public-private cooperation should be taken into account. Especially for ASEAN, it is critical to consider policies on food supply and demand in view of regional policy coordination within the region while also bearing in mind future policies for the liberalization of regional tariffs.

### (b) Central Asia and Caucasia

In general, there are many countries where agricultural production is showing signs of recovery, but which have not yet achieved self-sufficiency. Continuous support is also needed for the development of value chains adapted to the market economy. In most of the countries, amid the restrictions on water resources, there is also a need to respond to soil degradation.

### (c) South Asia

In regions experiencing population pressure and facing the broad impoverished classes and the disparities, apart from the most vulnerable Afghanistan, the domestic supply and demand for staple foods is at last becoming evenly matched. Despite this though, production is unstable, agricultural productivity is low (compared to countries in Southeast Asia, etc.), and regional disparities are wide. Support is needed for food security and agricultural rural development, such as for improving productivity through the development of rural infrastructure and introduction of high-yield varieties, for the diversification of farm produce and shift to high-value-added produce, and for the development and dissemination of appropriate

agricultural technologies in the lagged area for narrowing regional disparities. Furthermore, there is also a need for reform of public distribution systems and agricultural cooperative organizations, for increasing distribution efficiencies through the participation of the private sector, and for the introduction of cold chains, depending upon the country.

(d) Central and South America

For countries with surplus production capacity (grain exporters), JICA provides support with a view for public-private cooperation from the perspective of Japan's food security. For other countries facing food security problems, such as relying on imports for its staple foods, JICA provides support for increasing productivity which also emphasizes support for the poor.

(e) Sub-Saharan Africa

Self-sufficiency is very low, and food expenses account for a large proportion of household budgets (the most vulnerable). This is also the region with the most severe nutrition problems. Although productivity is low, the potential for development is relatively high, and so the main issues are the development of entire value chains centered on increasing agricultural productivity especially for small-scale farmers, as well as promoting a market-oriented approach to agricultural production and cooperation with the private sector. Moreover, the region tends to experience frequent droughts, floods and other natural disasters due to the effects of climate change, and so another important issue is strengthening the resilience of rural communities.

(f) North Africa and the Near and Middle East

Most countries in this region have a low rate of self-sufficiency, and their production potential is also low. JICA provides support from a food security perspective, focusing on the self-sufficiency of major grains. Water resources are scarce, and so it is also important to improve water utilization efficiency.

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