5. Standard indicator reference and typical lessons learned (agricultural and rural development) Mid-term objectives corresponding to models in this reference

Corresponding mid-term objectives
1-1 Capacity building for policy planning and implementation in the field of
agricultural and rural development
1-2 Improving, maintaining, conserving and managing production infrastructure
1-2 Improving, maintaining, conserving and managing production infrastructure
1-4 Capacity building for research and development
1-5 Promoting crop production (rice and other grain crops)
1-6 Promoting crop production (vegetables)
1-7 Promoting the livestock sector
1-7 Promoting the livestock sector
1-8 Promoting agricultural extension
1-8 Promoting agricultural extension
3-2 Improving the distribution and sale of food
3-3 Promoting the agricultural processing industry
3-9 Participatory rural development

(Note) No mid-term sub-targets have been set for the Thematic Guidelines on Agricultural and Rural Development

JICA standard indicator reference and typical lessons learned in technical cooperation projects (agricultural and rural developm
Model (1) Institutionalization

Development strategic objective	Mid-term objective	Indicators at a program goal level	Mid-term sub-target	Overall goals/Project purposes and indicator	titutionalization Methods/ Policies for setting indicators	Typical lessons learned	Example of project purpose (image of projects)	Reference projects
Development strategic objective	Development thematic issue level to which the cooperation program corresponds	Connection with the target	Level of thematic issue to solve in individual projects	examples To (outcome) By/through (output) Thereby contributing to (impact) Indicator examples	Ways of thinking, points to remember, and important points in setting indicators	Write in lessons and risks to be necessarily used or reflected in implementing projects corresponding to the "mid-term sub-targets" from the perspectives of: 1) planning stages, and 2) management.	Example of project purpose (image of projects)	Project information with good practices to refer to
1. Sustainable agricultural production	1-1 Capacity building for policy planning and implementation in the field of agricultural and rural development	 (1) Ratio of undernourished population (2) Ratio of population under the international poverty line (3) Ratio of farmers to the rural working population (4) Number of agricultural extension workers 	(No mid-term sub-targets have been set for the thematic guidelines for agricultural and rural development.)	 (Proposed model description) To establish a farmer-participatory irrigation management system between the irrigation authorities of ○ country and farmers' associations, (outcome) By establishing a legal system and agreements to promote farmers' participation in irrigation management, (output) 	* When setting baseline and target numbers of quantitative indicators, it is important to set values based on the baseline survey and agricultural statistics and other information in the target country or region, referring to other, similar projects, because natural, agricultural and social conditions greatly differ among countries and regions in the agricultural and rural development sector.	• Mutually complementary relationship with another donor The implementation of joint irrigation system management (JISM) requires the appropriate functioning of irrigation facilities. However, because most of the facilities had been developed in the 1970s, they were considerably decrepit. Farmers could not repair them, which might result in farmers' giving up irrigation agriculture. In this project, because irrigation facilities were planned to be repaired by the World Bank, JICA	To establish the bases of a farmer-participatory irrigation management system based on the legal system and the agreement and strengthen the Ghana Irrigation Development Authority (GIDA)'s services related to irrigation agriculture skills in the irrigation districts under the jurisdiction of GIDA, By establishing a legal system for promotion of farmers' participation in irrigation management, constructing a system for managing irrigation facilities between GIDA and farmers' associations and improving GIDA staff's capacity to plan and hold training in irrigation agriculture skills, Thereby contributing to an increase in the irrigation agriculture income per farmer in the irrigation districts under the jurisdiction of GIDA and the development of farmer-participatory irrigation management in Ghana.	
				 (Standard indicator examples) 1. Indicator examples of overall goals (1) Number of the irrigation authorities of ○● country's irrigation projects that began to be managed jointly according to the joint irrigation facilities management agreement between the authorities and farmers (2) YY% increase in the irrigation agriculture income per farmer in the irrigation districts under the jurisdiction of the irrigation authorities of ○● country 		the assumption that the target group was small and medium scale farmers. However, at the stage of project formation, small farmers' needs for management improvement were not grasped. As a result, the project was formulated without reflecting their needs and became inappropriate as a means, resulting in low relevance of the project. A social survey expert should have been called in to grasp the actual condition of the target group before the implementation of the project. Based on the result, the target group should have been reviewed and the project purpose should have been set. (From Reference Project 13 written on the right.)	To clarify support systems necessary for the business improvement of small and medium scale farmers through dairy farming and improve the roles and functions of relevant agencies, By conducting surveys on activities by small and medium scale farmers, agricultural cooperatives, producers' associations, markets, and the Ministry of Agriculture and Livestock's Livestock Research and Production Bureau and the status of the Ministry's measures in the dairy farming sector, clarifying measures for supporting the business improvement of small and medium scale farmers and clarifying the roles and functions of relevant agencies to support the business improvement of small and medium scale farmers, Thereby contributing to the construction of a livestock management model suitable for small and medium scale farmers.	Republic of Paraguay (Term of Cooperation: November 2002 – November 2004)

pment)

 2. Indicator example of project purpose (1) Number of the irrigation districts that began to be managed jointly according to the joint irrigation facilities management agreement between the authorities and irrigation farmers' associations of ○● country. (2) Number of services that were planned, carried out, and evaluated by the staff of the irrigation authorities of ○● country and provided by the authorities. (3) More than ZZ% of the farmers will satisfy the provided services and training. 	 Importance of an approach centering on organization reform in policy-supporting technical cooperation. It has been pointed out that there was a mismatch between the purpose and the means, and this mismatch may have hindred the achievement of sufficient purpose was determined as the role of the organizational problems, an approach for a technical cooperation and organizational problems, an approach for a technical cooperation may comporting technical cooperation to the trateat as a dotted mainly for the freehnical Cooperation to the trateat as a dotted mainly for the relevant central and village persons in the Morogoro may proach for a technical cooperation to be reated as the regional district, division, an approach for a technical cooperation to the trateat as the technical Department to be trateated as the therest tegional, district, division, an approach for a technical cooperation the C/P agenet, which had many problems, in terms of the original intent it was necessary to revorment and farmers' associations, (From Reference Project 13 written on the right.) 23. Institutional moblems and assupport in provement sin the organization and support improvements in the tweey of a dicultural data regularly." 23. Institutional supervise and adding the regularly." 24. Institutional management of the Crapacity between the fraction of the ford regreation to the Crapacity and advised the relevant central and local governments and the relevant and farmers' associations, (From Reference Project 13 written on the right.) 23. Institutional supervise and advise the regularly." 23. Institutional Support in growing the method for formulating and managing policies by the food security and improving the method for formulating and managing policies by the food security and improving the method for formulation of the food security and improving the method for formulation of the system for management of the Crapacity and the relevant central and local governments and the
	for managing it concerning food security, Thereby contributing to the formulation of effective policies by the food

JICA standard indicator reference and typical lessons learned in technical cooperation projects (agricultural and rural development) Model (2) Improving water management through the strengthening of irrigation associations' capacity

		<u>Model (</u>	2) Improving wa		the strengthening of irriga	tion associations' capacity		
Development strategic objective	Mid-term objective	Indicators at a program goal level	Mid-term sub-target	Overall goals/Project purposes and indicator examples	Methods/ Policies for setting indicators	Typical lessons learned	Example of project purpose (image of projects)	Reference projects
Development strategic objective	Development thematic issue level to which the cooperation program corresponds	Connection with the target years or indicators in sector/regional development plans by the recipient country's government	Level of thematic issue to solve in individual projects	To (outcome) By/through (output) Thereby contributing to (impact)	Ways of thinking, points to remember, and important points in setting indicators	Write in lessons and risks to be necessarily used or reflected in implementing projects corresponding to the "mid-term sub-targets" from the perspectives of: 1) planning stages, and 2) management.		Project information with good practices to refer to
1. Sustainable agricultural production	1-2 Improving, maintaining, conserving and managing production infrastructure	 Volume of yields Area of farmland Grain harvest area Irrigation area ratio Irrigation area ratio Irrigation association membership ratio Irrigation and maintenance fee collection ratio Annual ratio of planted farmland Increase in harvest per unit area 	been set for the thematic guidelines for agricultural and rural development.)	(Proposed model description) To expand the area of fields planted with dry season crops in the model area,	water management associations through cooperation.		To establish a model of proper operation and management of irrigation facilities by activating the irrigation associations in the model area through the support and cooperation of the local government, By strengthening the organization of the irrigation associations, distributing irrigation water to the terminals efficiently in the fields in the model area, maintaining and improving the irrigation facilities according to the condition of the model area, carrying out farming based on the efficient use of irrigation water, and having local government officials and other stakeholders acquire knowledge and experience necessary for giving proper guidance to the irrigation associations, Thereby contributing to proper operation and management of the irrigation district through the support and cooperation of the local government.	Water Users Association in
				overall goals (1) Farmers' agricultural incomes (2) Farmers' livelihood 2. Indicator example of project purpose (1) Field crops will be	target numbers of quantitative indicators, it is important to set values based on the baseline survey and agricultural statistics and other information in the target country or region, referring to other, similar projects, because natural, agricultural, and social conditions greatly differ among countries and regions in the agricultural and rural development sector.	Particularly in cases where improvements are made to irrigation and drainage	and promote the diversification of crops through efficient use of irrigation water in the dry season, By improving farming facilities, conducting water management at the basin delta level, establishing an irrigation association, engaging farming, and carrying out training, Thereby contributing to an increase in farmers' incomes through the improvement of the sustainable farming	Water

_	_		_			
					To promote water management through	8. Capacity
					capacity building of farmer leaders and	Development of
					water technology engineers along with	Participatory
					the participation of farmers and to	Irrigation
					improve agricultural productivity in	Management
					terms of both yield and cost at the	System through
					model site,	the Vietnam
					By strengthening the Academy for	Institute for Water
					Water Resources Participatory Water	Resources
					Management Center's function of	Research for
					promoting water management with the	Improvement of
						Agricultural
					engineers of the Irrigation Management	Productivity in
					Company acquire knowledge and skills	Vietnam (Term of
						Cooperation: June
					farmers' association's water	2005 – June 2010)
					management at the model site and	
					diversifying crops,	
					Thereby contributing to improvement	
					in agricultural productivity in terms of	
					both yield and cost through efficient	
					water management in the area where	
					participatory water management has	
					been developed.	

JICA standard indicator reference and typical lessons learned in technical cooperation projects (agricultural and rural development) <u>Model (3) Improving irrigation engineers' planning, implementation, and administration of irrigation projects</u>

Development strategic objective	Mid-term objective	Indicators at a program goal level		Overall goals/Project purposes and indicator examples	Methods/ Policies for setting indicators	istration of irrigation projects Typical lessons learned	Example of project purpose (image of projects)	Reference projects
Development strategic objective	Development thematic issue level to which the cooperation program corresponds	Connection with the target years or indicators in sector/regional development plans by the recipient country's government	Level of thematic issue to solve in individual projects	To (outcome) By/through (output) Thereby contributing to (impact)	Ways of thinking, points to remember, and important points in setting indicators	Write in lessons and risks to be necessarily used or reflected in implementing projects corresponding to the "mid-term sub-targets" from the perspectives of: 1) planning stages, and 2) management.		Project information with good practices to refer to
production	1-2 Improving, maintaining, conserving and managing production infrastructure	 Volume of yields Area of farmland Grain harvest area Irrigation area ratio Irrigation association membership ratio Irrigation and maintenance fee collection ratio Annual ratio of planted farmland Increase in harvest per unit area 	(No mid-term sub-targets have been set for the thematic guidelines for agricultural and rural development.)	(Proposed model description) To plan, implement, and manage irrigation appropriately in the project target area (outcome) By strengthening a technical support system for the facilitation of irrigation, (output) Thereby contributing to the stability of agricultural production. (impact)	* When setting baseline and	Farming support	To improve the technical capacity of the engineers of the Ministry of Water Resources and Meteorology (MOWRAM) and the Provincial Department of Water Resources and Meteorology (PDWRAM) through training at the Technical Service Center for Irrigation and Meteorology (TSC) and OJT at the model site and have the farmers who participated in the activities in the pilot site begin water management on terminal waterways in cooperation with PDWRAM, By establishing training curriculums at TSC, compiling a technical manual and managing technical information, Thereby contributing to the stabilization of agricultural production and improvement in farmers' livelihood through efficient use of water resources in the districts where irrigation was carried out by the trained engineers of MOWRAM and PDWRAM. To plan, implement, and manage	July 2009)
					target numbers of quantitative indicators, it is important to set values based on the baseline survey and agricultural statistics and other information in the target country or region, referring to other similar projects, because natural, agricultural, and social conditions greatly differ among countries and regions in the agricultural and rural development sector.		irrigation appropriately at the project target area, By having the engineer of the Technical Service Center for Irrigation and Meteorology (TSC) acquire the capacity to give the engineers of the Ministry of Water Resources and Meteorology (MOWRAM) and the Provincial Department of Water Resources and Meteorology (PDWRAM) training and technical support in the management and development of basin irrigation, having the engineers of MOWRAM and PDWRAM acquire knowledge and skills in the management and development of basic irrigation, improving the engineers' technical capacity to plan, investigate, design, construct, and maintain the whole irrigation system and constructing TSC's technical support system for promoting the PDWRAM engineers' implementation of irrigation projects, Thereby contributing to the stability of	Development Project in Cambodia (Term of Cooperation: September 2009 – August 2014)

				agricultural production by realizing efficient management of water resources through appropriate irrigation projects in the project target area.	

JICA standard indicator reference and typical lessons learned in technical cooperation projects (agricultural and rural development)
Model (4) Technical improvement type

Development strategic objective	Mid-term objective	Indicators at a program goal level	Mid-term sub-target	Overall goals/Project purposes and indicator examples	Methods/ Policies for setting indicators	Typical lessons learned	Example of project purpose (image of projects)	Reference projects
Development strategic objective	Development thematic issue level to which the cooperation program corresponds	Connection with the target years or indicators in sector/regional development plans by the recipient country's government	Level of thematic issue to solve in individual projects	To (outcome) By/through (output) Thereby contributing to (impact)	Ways of thinking, points to remember, and important points in setting indicators	Write in lessons and risks to be necessarily used or reflected in implementing projects corresponding to the "mid-term sub-targets" from the perspectives of: 1) planning stages, and 2) management.		Project information with good practices to refer to
1. Sustainable agricultural production	1-4 Capacity building for research and development	 (1) Volume of Crop yield production (2) Number of domestic animals (3) Crop harvest area (4) Irrigated area (5) Number of Agricultural machines per unit area of farmland (6) Amount of fertilizer applied per unit area of farmland (7) Amount of agricultural chemicals used per unit area of farmland 	(No mid-term sub-targets have been set for the thematic guidelines for agricultural and rural development.)	(Proposed model description) To enable ○● research institute to develop technologies necessary for small-scale farmers, (outcome) By improving the basic research capacity of the researchers of the research institute, (output) Thereby contributing to the strengthening of the	made through cooperation to clarify the C/P agency's department in charge of the management of such records, standardize to put such records in annual reports. * When formulating or strengthening a "model" or "system" in the project purpose, it is necessary to define the "model" or "system" concretely enough to illustrate. * Indicators can be set in terms of quantity or in terms of ratio.	• In many developing countries, there are many instances where the linkage between research institutes at the central level and regional organizations is weak, and where not enough research and application is undertaken to make the outputs of basic research usable at the local level by adapting them to suit the natural conditions of each region. Green Revolution technologies to date have been effectively developed and disseminated, but in regions where the conditions are not right for adopting these technologies, intra-regional and inter-regional disparities have widened. In such regions, "agriculture based on the use of local resources" has not functioned well as a technology for farming sustainably in fragile environmental conditions, which can also be introduced for the poor (accessible and easy methods and yet which are not a financial burden) and which has little burden on the environment. Therefore, human resources needs to be developed, capable of developing technologies best suited to local conditions, including making improvements to conventional technologies, not just introducing new	agricultural technology support to farmers, establishing agricultural technology packages useful for improvement in the model farmers' agricultural productivity, and establishing guidelines on agricultural technology support, Thereby contributing to food security in Cambia District through an increase in the production of edible products. To establish a system that enables search and collection, classification and evaluation, restoration and multiplication, data management, and exchange of genetic resources and	17. Seed Bank Project in the Union of Myanmar (Term of Cooperation: June 1997 – May 2002)

pment)

area with extension packages for small-scale farmers developed by $\bigcirc \bullet$ research institute. (3) Training for farmers' groups will be held more than X times a year for technical ⁴ When setting baseline and exchange between the target numbers of quantitative provincial extension office indicators, it is important to set (extension workers) and $O \bullet$ values based on the baseline research institute staff. survey and agricultural statistics (4) By the end of the project, and other information in the X percent of the small-scale target country or region, and farmers in the pilot area will also referring to other, similar introduce the technology projects, because natural, provided by the extension agricultural, and social service and will be able to conditions greatly differ among apply it continuously. countries and regions in the agricultural and rural development sector. 2. Indicator examples of project purpose (1) By 20XX, regular surveys on farmers' needs will be conducted according to a manual that describes a method for conducting a survey on farmers' needs in coordination with extension workers' activities. (2) By 20XX, regular surveys on farmers' adoption of developed and provided technologies will be conducted according to a manual that describes a method for grasping the status of adoption. (3) By 20XX, the number of research plans formulated by the use of a participatory research method based on surveys on farmers' needs will become more than X % of the total number of research plans. (4) The number of cases where technology is provided based on the results of the research will become more than ZZ a year.

9

o improve the agricultural	18. Bohol
productivity in a project sub-site (the	Integrated
emonstration area where irrigation	Agriculture
ssociation members cultivate crops	Promotion Project
vithin the Capayas irrigation plan area)	in the Philippines
hrough the improvement of farming,	(November 1996 –
By conducting basic research and	November 2001)
nonitoring by the staff of the Bohol	
Agricultural Promotion Center (APC),	
dopting in the sub-site a farming	
ystem suitable for the local situation	
where paddy rice is the core crop,	
nanaging the irrigation association	
fficiently in the sub-site, improving	
he skills of the extension workers and	
he core farmers in Bohol, and	
mproving the agricultural promotion	
ystem through the strengthening of the	
ooperation between APC and the local	
overnment,	
Thereby contributing to an increase in	
he farmers' agricultural production and	
ncomes in Bohol Island.	
o strengthen the Regional Agricultural	19. Research
nvestigation Center's research capacity	Project on
oncerning the breeding, cultivation,	Soybean
nd soil management for the production	Production in
f soybeans to develop proper species	Paraguay (Term of
nd sustainable cultivation technology,	Cooperation:
By improving the technology of	October 1997 –
preeding soybeans, the cultivation	September 2002)
echnology for the establishment of a	September 2002)
proper cultivation system, and the	
echnology of managing soil,	
Thereby contributing to developing	
preeding technology and sustainable	
ultivation technology and, through the	
ransfer of the technologies to farmers,	
•	
ealizing the stable production of	
oybeans and the expansion of	
production areas.	
To increase the production volume and	20. NERICA Rice
roductivity of NERICA rice in the	Promotion Project
roject activity area,	in Uganda (August
By strengthening and developing	2008 – June 2011)
NERICA rice (including paddy rice)	
esearch function (organization and	
uman resources) of the National Crops	
Resources Research Institute and the	
Conal Agricultural Research and	
Development Institute (ZARDI), and	
lisseminating appropriate rice	
ultivation technology among the	
armers in the target area,	
Thereby contributing to the	
chievement of self-sufficiency in rice	
nd improvement of rice producing	
armers' incomes through the	
mprovement of the production volume	
nd productivity of rice.	
- ·	

JICA standard indicator reference and typical lessons learned in technical cooperation projects (agricultural and rural develop
Model (5) Promoting crop production (rice and other grain crops)

			Model	(5) Promoting crop prod	<u>uction (rice and other grai</u>	<u>n crops)</u>		
Development strategic objective	Mid-term objective	Indicators at a program goal level	Mid-term sub-target	Overall goals/Project purposes and indicator examples	Methods/ Policies for setting indicators	Typical lessons learned	Example of project purpose (image of projects)	Reference projects
Development strategic objective	Development thematic issue level to which the cooperation program corresponds	Connection with the target years or indicators in sector/regional development plans by the recipient country's government	Level of thematic issue to solve in individual projects	To (outcome) By/through (output) Thereby contributing to (impact)	Ways of thinking, points to remember, and important points in setting indicators	Write in lessons and risks to be necessarily used or reflected in implementing projects corresponding to the "mid-term sub-targets" from the perspectives of: 1) planning stages, and 2) management.		Project information with good practices to refer to
1. Sustainable agricultural production	1-5 Promoting crop production (rice and other grain crops)		been set for the thematic guidelines for agricultural and	 (Proposed model description) To improve the production volume and productivity of rice in the project target area, (outcome) By strengthening and developing agricultural research institutes' rice research function (organization and human resources) and disseminating appropriate rice cultivation technology among the farmers in the target area, (output) Thereby contributing to improvement in the incomes of the rice producing farmers in the project target area. (impact) (Standard indicator examples) Indicator examples of overall goals (1) Incomes of rice producing farmers in the project target area 	and the development level. For example, given that project periods are often between three and five years, it may be difficult to achieve the improvement of farmers' incomes. In this case, it is necessary to set production volume and productivity at the impact level and set the introduction and dissemination of cultivation technology at the project purpose level. * If a project aims to increase the income of the female poor, measure impact on women by collecting data by gender. When setting the purpose at improvement in earnings or income, it is necessary to take measures concerning external conditions, such as preventing sharp decline in prices of farm	• The stage of development in a local region's grain production and distribution first needs to be ascertained before	project target area, By strengthening and developing NERICA rice (including paddy rice) research function (organization and human resources) of the National Crops Resources Research Institute and the Zonal Agricultural Research and Development Institute (ZARDI) and disseminating appropriate rice cultivation technology among the farmers in the target area, Thereby contributing to the achievement of self-sufficiency in rice and improvement in rice producing farmers' incomes through the improvement of the production volume and productivity of rice. To distribute registered seeds in a planned way, By producing and distributing registered seeds of attractive varieties in a more planned way, increasing the yield of the registered seeds, realizing the purchase of them more easily and having more	Promotion Project in Uganda (Term of Cooperation: August 2008 – June 2011) 1. Reinforcement of Certificated Seed Production System in Popular Rice in Cuba (Term of
				 Production yield of rice in the project target area Production yield of rice per unit area in the project target area 	single-period product (rainy		To increase the production of certified rice seeds in this project, , By increasing the production volume of registered seeds in the five provinces in the central zone, improving the quality, strengthening activities for spreading rice growing, improving leader seed producers' production technology, and improving the Seed Inspection and Certification Service (SICS) seed inspectors' skills and knowledge on rice cultivation, Thereby contributing to an increase in the unit yield of rice and the production	extension and diffusion of technologies for certified rice seed production in the central zone of Cuba (Term of Cooperation: January 2012 –

opment)

	agricultural, and social conditions greatly differ among countries or regions in the agricultural and rural development sector.	This technical cooperation took the following steps: (1) clarification of the agricultural sector development program; (2) calculation of training expenses; (3) visit to districts; (4) sharing of information through workshops; and (5) participation of decision-makers, such as district administration chiefs. During these steps, emphasis was placed on Tanzania's budget for general training expenses. As a result, the stakeholders' capacity to demand budgets was strengthened and a high burden ratio of training expenses (about 60%) was budgeted into the agricultural development plan of the district. Such detailed steps should be considered for other projects. (From Reference Project 4 written on the right)	rice growing training through consultations with stakeholders, strengthening the implementing agency (agricultural training center)'s training capacity, improving the district's capacity to plan irrigation rice growing training and providing rice growing training and thematic training (gender, irrigation district organization management, rice marketing) based on extension among farmers in the irrigation districts all over Tanzania. Moreover, the capacities of research, training, and extension institutes will be strengthened to promote rice growing	4. Technical Cooperation in Supporting Service Delivery Systems of Irrigated Agriculture in Tanzania (Term of Cooperation: June 2007 – June 2012)
		development plan of the district. Such detailed steps should be considered for	Moreover, the capacities of research, training, and extension institutes will be	

JICA standard indicator reference and typical lessons learned in technical cooperation projects (agricultural and rural development) <u>Model (6) Promoting crop production (vegetables)</u>

	Model (6) Promoting crop production (vegetables)							
Development strategic objective	Mid-term objective	Indicators at a program goal level	Mid-term sub-target	Overall goals/Project purposes and indicator examples	Methods/ Policies for setting indicators	Typical lessons learned	Example of project purpose (image of projects)	Reference projects
Development strategic objective	Development thematic issue level to which the cooperation program corresponds	Connection with the target years or indicators in sector/regional development plans by the recipient country's government	Level of thematic issue to solve in individual projects	To (outcome) By/through (output) Thereby contributing to (impact)	Ways of thinking, points to remember, and important points in setting indicators	Write in lessons and risks to be necessarily used or reflected in implementing projects corresponding to the "mid-term sub-targets" from the perspectives of: 1) planning stages, and 2) management.		Project information with good practices to refer to
1. Sustainable	1-6 Promoting crop	(1) Volume of yields	(No mid-term	(Proposed model description)	* When setting baseline and	Reduced quality due to inappropriate	To strengthen the system for supporting	1. Project for
agricultural production	production (vegetables)	(2) Area of farmland	sub-targets have been set for the thematic guidelines for agricultural and rural development.)	To increase the production of horticultural yields by the producers' associations in the project target area, (outcome) By improving the agricultural technology of the members of the producers' associations in the project target area, (output) Thereby contributing to an increase in the production of horticultural yields in the whole project target district. (impact) (Standard indicator examples) 1. Indicator examples of overall goals (1) Volume of horticultural yields in the whole project target district 2. Indicator example of project	target numbers of quantitative indicators, it is important to set them based on the baseline survey and the agricultural statistical information in the target country or region,	post-harvest processing Sorting vegetables properly and improving packaging and means of transportation are highly effective for improving the quality of vegetables, lengthening the selling period and extending the distance that vegetables can be transported. On the other hand, in introducing these practices, there are various factors to be considered, including: (1) (infrastructure development) much infrastructure needs to be developed, such as facilities for sorting, packaging and storing vegetables, as well as distribution infrastructure and markets for trading produce; (2) ("soft" responses) in order to convey the improvements in quality to the market, initiatives are also needed for such "soft" aspects as the creation of organizations for making lots of the same quality and the introduction of highly transparent trading markets, including the establishment of uniform quality standards and the development of price information systems; (3) (market maturity) cost-effectiveness can only be achieved if the market is responsive to high quality. Consequently, once an overall evaluation of these factors has been made, initiatives need to be taken which are suited to local conditions. (From "Thematic Guidelines –	vegetable cultivation by the small farmers in the eastern area, By establishing a system for disseminating the vegetable cultivation technologies available to the small farmers and constructing a system for giving guidance about management improvement methods to the small farmers and vegetable producers' associations, Thereby contributing to improvement in the small farmers' revenues from vegetable cultivation. To improve vegetable production technology for small vegetable producers by the National Agronomic Institute (IAN) of the Ministry of Agriculture and Livestock's Department of Agriculture Investigation and encouraging leading small-scale farmers in the target area to use the technology, By selecting and growing excellent varieties, improving proper cultivation technology for preventing them from emerging, and disseminating the developed technology and knowledge among the extension workers of the Ministry of Agriculture and Livestock's Department of Agricultural Extension (DEAG) and leading farmers, Thereby contributing to the stabilization of small-scale farmers' management and the improvement of living standards. To increase the production of vegetable seeds of sufficiently high quality to export in this project,, By (1) strengthening the system for promoting the seed industry, (2) disseminating seed production technology through farming training and	Supporting Small-Scale Farmer in the Eastern Region in El Salvador (Term of Cooperation: March 2008 – March 2012) 2. Project for the Improvement of Vegetable Production Techniques for Small Scale Farmers in Paraguay (Term of Cooperation: April 1997 – March 2002) 4. Project for Promotion of Exportable Vegetable Seed Production in Kyrgyz (Term of Cooperation: May 2013 – May 2018)

JICA standard indicator reference and typical lessons learned in technical cooperation projects (agricultural and rural develop
Model (7) Promoting the livestock sector (livestock production)

Development strategic objective	Mid-term objective	Indicators at a program goal level		Overall goals/Project purposes and indicator examples	tock sector (livestock prod Methods/ Policies for setting indicators	Typical lessons learned	Example of project purpose (image of projects)	Reference projects
Development strategic objective	Development thematic issue level to which the cooperation program corresponds	Connection with the target years or indicators in sector/regional development plans by the recipient country's government	Level of thematic issue to solve in individual projects	To (outcome) By/through (output) Thereby contributing to (impact)	Ways of thinking, points to remember, and important points in setting indicators	Write in lessons and risks to be necessarily used or reflected in implementing projects corresponding to the "mid-term sub-targets" from the perspectives of: 1) planning stages, and 2) management.		Project information with good practices to refer to
1. Sustainable agricultural production	1-7 Promoting the livestock sector	 (1) Ratio of undernourished population (2) Ratio of population under the international poverty line (3) Number of domestic animals (4) Number of households by income (5) Production volume (value) of animal products (milk, meat, eggs, processed animal products (dairy products, meat products, leather, animal hair, etc.)) 	(No mid-term sub-targets have been set for the thematic guidelines for agricultural and rural development.)	improvement of the activities for disseminating dairy farming technologies in the target area, (outcome) By improving the function of the dairy technology extension center, improving the center staff's capacity to guide extension workers about dairy technology and improving extension workers' capacity to carry out extension activities for small and medium scale dairy farmers, (output) Thereby contributing to an increase in small and medium scale dairy farmers' revenues in the target area. (impact) (Standard indicator examples) 1. Indicator examples of overall goals (Basic) (1) Improvement in milk productivity (2) Improvement in dairy farmers' revenues 2. Indicator examples of project purpose (Basic) (1) The artificial insemination technicians in the project target area will understand the significance of progeny test and answer that they would	weighted counting, make overall evaluation. For example, in the case of agricultural extension workers, it may be necessary to improve not only the capacity to give guidance about cultivation technology but also the capacities to organize farmers, manage and guide the organizations, promote participatory development, conduct marketing, and improve agricultural management. * It is necessary for the C/P agency to prepare "technical standards" and establish an evaluation method (a test method, judgment standards, a judgment system, etc.) through cooperation. * When setting baseline and target numbers of quantitative indicators, it is important to set them based on the baseline survey and the agricultural statistical information in the target country or region, referring to other, similar projects, because natural, agricultural, and social conditions greatly differ among countries or regions in the agricultural and rural development sector.	by farmers, consideration needs to be given to the reasonableness of all production activities as a whole. Thus, an appropriate approach is needed which correctly ascertains which functions should be extended. Based on a technical cooperation project, the scheme needs to start gradually with cooperation related to improving livestock farming management, feed production and animal health, before shifting to breeding-related technology in accordance with the stage of development. At the same time, providing support on ways of using the instructed technology and on improving systems and mechanisms is also compelling for the partner country, and is also important from the perspective of self-reliance. Furthermore, it is also necessary to perform the role of developing the next generation of human resources working in cooperation, such as by cooperating with JICA volunteers and getting them to experience technology dissemination at the grass-roots level. In planning and implementing region-wide cooperation, on a basis of conventional bilateral cooperation with each country, consider actively and	for Training and Extension on Dairy Techniques (STED), the guidance capacity of STED's national trainers (NTs) for local trainers (LTs) and LTs' extension activities for the small and medium scale dairy farmers in the project target area, Thereby contributing to improvement in the milk productivity of the small and medium scale dairy farmers in the northern area of Vietnam.	 2. Project of Improvement of productive Technology in Small and Medium Dairy Farms in Viet Nam (Term of Cooperation: January 2006 – December 2010) 6. Improvement of Technical Extension for Small-Scale Livestock Farmers Project in Bolivia (Term of Cooperation: December 2004 – February 2008)

pment)

(2) Improved breeding management technology will be adopted by O% of the dairy farmers in the target area.(3) Improved technology will be used by X% of the model farmers in the project target area. (4) The volume of milk per cow owned by the model farmers in the project target

area will increase by X%. (5) An increasing rate in the volume of milk per cow owned by the model groups (1 group = $1 \mod farmer + 5$ neighboring farmers = 6farmers; 6 farmers \times 5 groups about 30 farmers) (6) Extension workers will continue appropriate extension activities for model groups according to the developed model. (7) Improved technologies will unreasonable increase in the be continuously used by X% of neighboring farmers. (8) By the end of the project, a system for carrying out the "dairy farming promotion plan grazing capacity. for small and medium scale

producers" that will clarify the

sharing of roles among

relevant agencies.

With regard to the target number of domestic animals, pay attention to cases where serious environment problems and inefficient livestock management arise due to an number of domestic animals without regard for environmental capacities, such s production efficiency and

Guidelines – Agricultural and Rural Development," p. 71) • In the countries where the public extension support system has not been established or is weak, such as Bolivia, it is important to consider constructing an extension model that combines school institutes and producers' associations that have technicians who have the technical capacity to train extension workers, have wide knowledge on implementing agencies (research institutes, universities, etc.) and the local situation, and can carry out extension activities with the cooperation of the implementing agencies. (From Reference Project 6 written on the right)

• Setting of suitable technical levels It is important to always be highly conscious of beneficiary farmers' interests (increase in their incomes through the expansion of milk production), fully grasp the situation of farming through training of selected farmers, and develop practical technology instead of pursuing high-level cooperatives, producers' associations, technology rashly. (From Reference Project 3 written on the right)

To clarify support systems necessary for 13. Improvement improving the management of small and of Small and medium scale farmers through dairy farming and improve the roles and functions of relevant agencies according to the results of the clarification, By investigating activities by small and medium scale farmers, agricultural markets and the Ministry of Agriculture and Livestock's Bureau of Animal Research and Production, clarifying measures for supporting the improvement of small and medium scale farmers' management and clarifying the roles and functions of relevant agencies to support the improvement of small and medium scale farmers' management, Thereby contributing to the construction of a dairy farming management model suitable for small and medium scale farmers.

To establish technical and institutional foundations for improving small-scale dairy farming through better breeding, feeding and dairy management in the project target area,

By establishing a proper progeny test method in Sri Lanka, improving technology related to artificial insemination and improving technology for feeding and dairy management, Thereby contributing to the improvement March 2014) of milk productivity, an increase in dairy farmers' incomes, the selection of seed bulls that have passed the progeny test, the popularization of artificial insemination by the use of frozen semen that has passed the progeny test, deepening of understanding of the significance of progeny test in Sri Lanka and improvement in the breeding system

Medium Scale Dairy Farm Management Project in the Republic of Paraguay (Term of Cooperation: November 2002 - November 2004)

1. Small Scale Dairy Farming Improvement through Genetic and Feeding Management Improvement in Sri Lanka (Term of Cooperation: April 2009 –

• Selection of extension routes Extension service to the dairy farmers in the target province is provided through two routes – district technicians (extension workers) and agricultural cooperatives' technicians. Because agricultural cooperatives' technicians frequently visit farmers to collect milk and perform artificial insemination, they are familiar with the situations of farmers. On the other hand, districts technicians' capacity is limited in terms of number (about 400 farmers per technician), technical level (few technicians specialized in dairy farming) and transport means (car, motorcycle, etc.). In addition, according to the result of a consultation with the Union of Indonesian Dairy Co-operatives (GKSI), O GKSI was positive and eager to take charge of extension service for farmers. Given this situation, with regard to the dairy farming in Indonesia, it seems appropriate to review and reconstruct extension mechanisms, taking into consideration the trend toward decentralization and resultant privatization and considering integrating the routes for providing extension service into the cooperatives' route. (From Reference Project 3 written on the right)

• Leaders in technical extension It is necessary to accurately grasp human resources who can serve as leaders in technical extension. In most developing countries, there are not many officials similar to extension workers belonging to local governments and agricultural cooperatives like the ones in Japan. To carry out technical extension activities in such areas, it is necessary to consider giving cooperation to technical extension human resources in the sectors other than the public sector (concretely, persons engaged in the provision of private service, such as feed sellers, animal drug sellers, and veterinary practitioners). Although the training of extension leaders is essential for promoting livestock farming, the appropriate utilization of the private sector is important for training them autonomously within a developing country. (From Reference Project 2 written on the right)

	To establish an appropriate comprehensive technical guidance system concerning dairy farming technology, By improving feeding and dairy management technology, breeding health management technology, coarse feed production and use technology, and training for technical staff, Thereby contributing to improvement in the dairy farming technology at the level of farmers.	3. Dairy Technology Improvement Project in Indonesia (Term of Cooperation: March 1997 – March 2002)
	To strengthen the function of the Singosari Artificial Insemination Center, By improving artificial insemination technology for the promotion of dairy farming, Thereby contributing to the development of livestock farming in Indonesia.	4. Strengthening of the Artificial Insemination Center in Indonesia (Term of Cooperation: February 1986 – March 1991)
e		
)		
1		

|--|



JICA standard indicator reference and typical lessons learned in technical cooperation projects (agricultural and rural develo	p
Model (8) Promoting the livestock sector (livestock hygiene)	

Model (8) Promoting the livestock sector (livestock hygiene)								
Development strategic objective	Mid-term objective	Indicators at a program goal level	Mid-term sub-target	Overall goals/Project purposes and indicator examples	Methods/ Policies for setting indicators	Typical lessons learned	Example of project purpose (image of projects)	Reference projects
Development strategic objective	Development thematic issue level to which the cooperation program corresponds	Connection with the target years or indicators in sector/regional development plans by the recipient country's government	Level of thematic issue to solve in individual projects	To(outcome) By/through(output) Thereby contributing to (impact)	Ways of thinking, points to remember, and important points in setting indicators	Write in lessons and risks to be necessarily used or reflected in implementing projects corresponding to the "mid-term sub-targets" from the perspectives of: 1) planning stages, and 2) management.	projects)	Project information with good practices to refer to
1. Sustainable agricultural production	1-7 Promoting the livestock sector		(No mid-term sub-targets have been set for the thematic guidelines for agricultural and rural development.)	quantity of the disease investigation center's disease diagnosis service, (outcome) By improving the disease investigation center staff's disease diagnosis technology, (output) Thereby contributing to improvement in the productivity of domestic animals in the project target area through the strengthening of measures against animal diseases in the center's jurisdiction. (impact)		by farmers, consideration needs to be given to the reasonableness of all	(pilot site), local, and central levels, By (1) establishing animal disease monitoring technology, (2) constructing an information system for monitoring animal diseases. and (3) creating a framework at the regional (six countries) level concerning animal disease monitoring, Thereby contributing to the construction of a system for monitoring cross-border animal diseases at the regional (six countries) level.	 Regional Cooperation Project for Animal Disease Control among Cambodia, Lao P.D.R., Malaysia, Myanmar, Thailand and Vietnam (ADC Project Phase 2) (Term of Cooperation: February 2008 – February 2011) Project of the
				*	number of domestic animals, pay attention to cases where		development system for animal disease diagnosis in the region and create a	Capacity Development for

opment)

(Basic)

(1) By the year of $\bigcirc \bullet$, the number of domestic animals that receive disease diagnosis from the disease investigation center will increase by $\bigcirc \bigcirc \%$ compared with the year of \blacktriangle .

(2) In the project target area, by the year of $\bigcirc \bullet$, the number of districts where the disease investigation center monitors animal disease management will become \bigcirc \bigcirc among the XX districts in total. (3) By the year of $\bigcirc \bullet$, the number of enlightenment and technical support activities by the disease investigation center in the project target area will increase by $\bigcirc\bigcirc\%$ compared with the year of $\blacktriangle \triangle$. (4) A disease prevention plan will be formulated concerning important animal diseases. (5) Loss in the productivity of domestic animals due to animal disease will reduce by 00%.

2. Indicator examples of

(1) The annual number of

samples diagnosed by the

disease investigation center

and the number of kinds of

become more than XX and YY

diagnosed diseases will

project purpose

serious environment problems and inefficient livestock management arise due to an unreasonable increase in the number of domestic animals with regard for environmental capacities, such as production efficiency and grazing capacity. Because C/Ps from many countries participate in a regional cooperation project, it is important to gain common understanding of project management. It is especially important to provide key persons in each country with training for full understanding of the concept of PCM and the method s of preparing PDM and PO at an early stage of the project. (From Reference Project 1 written on the right)

Reflection of new methods in the government manual
 Japanese experts dispatched to the parasitological laboratory have so far introduced many methods to improve test accuracy. Because these methods have not been described in the manual compiled by the government, the laboratory has sometimes failed to adopt them. Therefore, the test methods introduced during the project should be reflected in the revision of the manual. (Reference Project 3 written on the right)

• Cooperation between the investigation center and local stakeholders It is important to cooperate with veterinarians and assistants intervening between the laboratory and fields, recognizing that the purpose of the investigation center is to support field technicians and producers. It is also

hetwork for human cooperation and the haring of diagnosis and disease information, By using the results of the cooperation he National University of La Plata in Argentina has so far given concerning inimal disease diagnosis technology, expanding the target area to neighboring Bolivia, Paraguay, and Uruguay, giving eeducation to existing veterinarians in tharge of animal disease diagnosis to trengthen the technical capacity to mprove livestock hygiene and creating a egion-wide network for livestock uygiene information by the use of human cooperation, reference libraries, disease information databases, and mailing lists of veterinarians, Chereby contributing to properly carrying but animal disease diagnosis in the region the southern part of South America).	Improvement of Livestock Hygiene in the Southern Part of South America through Regional Technical Cooperation (Term of Cooperation: August 2005 – July 2010)
To improve the quality and quantity of he animal disease diagnosis service provided by the Subang Disease nvestigation Center (Subang DIC), By having the Subang DIC staff acquire pasic and systematic animal disease liagnosis skills, strengthening the Sbang DIC staff's capacity to provide sample liagnosis service (passive surveillance) rom the standpoint of customers, mprove the staff's capacity to give echnical support for disease diagnosis and countermeasures (active urveillance) at the pilot sites, and having he staff continue information provision newsletters, round of visits for exchange of opinions, etc.), enlightenment activities, Thereby contributing to the strengthening of the animal disease countermeasures in he West Java Region (under the urisdiction of Subang DIC).	3. Project on Capacity Development of Animal Health Laboratory in Indonesia (Term of Cooperation: June 2011 – May 2015)

respectively at the end of the project. (2) The disease investigation center will be able to feed back diagnosis results to customers within the number of days specified by the project. (3) The staff of the disease investigation center will be able to plan, implement, monitor, and feed back animal disease diagnosis XX or more times a year, taking into consideration the local characteristics. (4) XX% of the users of the disease investigation center (veterinary technicians, veterinarians, and farmers) will answer "the diagnosis service is better than before the project."	organizations To promote cooperation in the animal health sector, it is important to coordinate with regional and international frameworks for animal health and disease prevention and communicate with international organizations, such as the World Organization for Animal Health (OIE) and the Food and Agriculture Organization of the United Nations (FAO). (From the Regional Cooperation Project for Animal Disease Control among Cambodia, Lao P.D.R., Malaysia, Myanmar, Thailand, and Vietnam (Phases 1 and 2)) To formulate a plan to animal diseases and st diagnosis skill, By standardizing skill	nsion workers' and Production mal health and Delivery through and give guidance ishing models of exchange and Cooperation: science and October 2005 – September 2008) to disease ivestock activities. prevent serious 5. Plan for the National Institute of in diagnosing Animal Health in
	It is important to select cooperative in diagnosing infectiou	ectively, o formulating a s animal diseases. Hy and ch concerning skill diseases through diseases of Technology on Diagnosis of
	institutes after fully examining the roles and functions of animal disease investigation institutes (e.g. which center on academic research and those which provide diagnosis service in actual fields). (From Reference Project 6 written on the right) basic and applied resea By having the staff of institutes and veterinar acquire skill in the bas research of immunolog animal infectious disea Thereby contributing the institutes and veterinar acquire skill in the bas research of immunolog animal infectious disea Thereby contributing the improvement of skill i animal infectious disea	arch, Animal Infection veterinary Diseases in ry departments Mongolia (Term of Cooperation: gical diagnosis of ases, 2002) to the development rrough the n diagnosing

JICA standard indicator reference and typical lessons learned in technical cooperation projects (agricultural and rural development) <u>Model (9) Expanding target area farmers' crop production through improvement of the agricultural extension system</u>

Model (9) Expanding target area farmers' crop production through improvement of the agricultural extension system									
Development strategic objective	Mid-term objective	Indicators at a program goal level	Mid-term sub-target	Overall goals/Project purposes and indicator examples	Methods/ Policies for setting indicators	Typical lessons learned	Example of project purpose (image of projects)	Reference projects	
Development strategic objective	Development thematic issue level to which the cooperation program corresponds	Connection with the target years or indicators in sector/regional development plans by the recipient country's government	Level of thematic issue to solve in individual projects	To (outcome) By/through (output) Thereby contributing to (impact) Indicator examples	Ways of thinking, points to remember, and important points in setting indicators	Write in lessons and risks to be necessarily used or reflected in implementing projects corresponding to the "mid-term sub-targets" from the perspectives of: 1) planning stages, and 2) management.		Project information with good practices to refer to	
1. Sustainable	1-8 Promoting	(1) Volume of crop production	(No mid-term	(Proposed model description)	* When constructing or		To improve the participating farmers'	14. Development	
agricultural production	agricultural extension	(2) Number of domestic animals(3) Crop harvest area	sub-targets have been set for the thematic guidelines for agricultural and rural development.)	To improve the system for extension of agricultural technology for $\bigcirc \bullet$ crops in the target area, (outcome) By improving extension workers' and extension groups' agricultural technology for $\bigcirc \bullet$ crops, (output) Thereby contributing to the expansion of farmers' production of $\bigcirc \bullet$ crops in the target area. (impact)	 when constructing of strengthening a "model" or "system" for the project purpose, it is necessary to define the "model" or "system" concretely enough to illustrate. * If there are several kinds of technologies, it is possible to make evaluation concerning each technical item and, after weighted counting, make overall evaluation. For example, in the case of agricultural extension workers, it may be necessary to improve not only the capacity to give guidance about cultivation technology but also the capacities to organize farmers, manage and guide the 	 Construction of a system for interlocking technical improvement with income increase 	productivity of rice, By developing a low-input and locally adaptable cultivation system at the main place and branches and constructing a technical support system centering on rice growing technology in the three target areas, Thereby contributing to improvement in the productivity of rice and farmers' income in the target areas. To putting the dissemination model of bivoltine sericulture on track,	and Promotion of Location-Specifi c Integrated High-Yielding Rice-Based Technologies in the Philippines (Term of Cooperation: November 2004 – November 2009) 2. Strengthening Extension	
		(11) Number of agric extension information	(11) Number of agricultural extension information centers(12) Number of agricultural	 1) Number of agricultural tension information centers 2) Number of agricultural tension workers 2) Number of agricultural tension workers (1) Production of ○● per year in the target are (2) Area of cultivation of ○ orops in the target are (3) Number of farmers v began to cultivate ○● 2. Indicator examples of project purpose (1) Number of training manuals prepared for 	 a. Indicator examples of overall goals (1) Production of O crops per year in the target area (2) Area of cultivation of O crops in the target area (3) Number of farmers who began to cultivate O crops 2. Indicator examples of project purpose (1) Number of training 	manage and guide the organizations, promote participatory development, perform marketing, and improve agricultural management.	anizations, promote ticipatory development, form marketing, and improve icultural management. Because a fresh cocoon evaluation system was introduced into the cocoon market, a system was constructed to sel cocoons with high raw silk yield at a hi price. As a result, farmers became high conscious of improvement in the quality of cocoons. In this way, if a system is constructed to connect technical improvement directly to an increase in farmers' income through the market, mutual enhancement of technical improvement and income improvement can be expected. (From Reference Project 2 written on the right)	the support system for farmers and	India (Term of Cooperation: August 2002 – August 2007)
				extension	* It is necessary for the C/P agency to prepare "technical standards" and establish an evaluation method (a test method, judgment standards, a judgment system, etc.) through cooperation.			Agricultural Training Centre (KATC) Phase2 Project in Tanzania (Term	

			It can be thought that efforts will	
			be made to establish and	
			improve a system for certifying	
			lecturers (setting of technical	
			standards, test method, etc.) as	
			an improvement of the C/P	
			agency's capacity.	
			* It can be thought that efforts	
			will be made to systematize	
			submission of participants'	
			training reports and lecturers'	
			evaluation (self-evaluation +	
			interview by	
			superior/committee) on a regular	
			basis (about once a year) as an	
			improvement of the C/P	
			agency's capacity.	
			agency scapacity.	
			* It is necessary to set "technical	
			standards" required for	
			extension workers.	
			* For example, systems can be	
			constructed for extension	
			workers' "reports on extension	
			activities" and training	
			participants' regular feedback. In	
			addition, a system can be	
			constructed whereby the	
			planning or evaluation	
			department of the C/P agency	
			can analyze collected data.	
			Ψ. Τ . • · ·	
			* It is necessary to increase	
			extension workers' capacity to	
			conduct questionnaire surveys	
			on farmers and analyze the	
			results during the project.	
			* When setting baseline and	
			target numbers of quantitative	
			indicators, it is important to set	
			values based on the baseline	
			survey and agricultural statistics	
			and other information in the	
			target country or region,	
			referring to other similar	
			projects, because natural,	
			agricultural and social	
			conditions greatly differ among	
			countries and regions in the	
			agricultural and rural	
			development sector.	
	•	•	• •	

sending information on useful irrigation rice growing and establishing a concept and an approach for incorporating gender into the planning, implementation, and monitoring of technical training in the production of irrigation rice growing, Thereby contributing to improvement in the productivity of rice in the area where KATC provided training and neighboring areas. areas.

JICA standard indicator reference and typical lessons learned in technical cooperation projects (agricultural and rural development) <u>Model (10) Constructing and institutionalizing an extension system</u>

Dovelopment students - 1 ·	Mid town abienting	Indicators at a program		structing and institutional Overall goals/Project purposes			Example of project purpose (image	Reference
Development strategic objective	Mid-term objective	goal level	Mid-term sub-target	and indicator examples	setting indicators	Typical lessons learned	of projects)	projects
Development strategic objective	Development thematic issue level to which the cooperation program corresponds		Level of thematic issue to solve in individual projects	To (outcome) By/through (output) Thereby contributing to (impact) Indicator examples	Ways of thinking, points to remember, and important points in setting indicators	Write in lessons and risks to be necessarily used or reflected in implementing projects corresponding to the "mid-term sub-targets" from the perspectives of: 1) planning stages, and 2) management.	Example of project purpose (image of projects)	Project information with good practices to refer to
e	agricultural extension	 (1) Volume of crop production (2) Number of domestic animals (3) Crop harvest area (4) Irrigation area (5) Number of farm machines per unit area of farmland (6) Amount of fertilizer applied per unit area of farmland (7) Amount of agricultural chemicals used per unit area of farmland (8) Unionization rate of producers (9) Irrigation and maintenance fee collection ratio (10) Number of households by income (11) Number of agricultural extension information centers (12) Number of agricultural extension workers 	set for the thematic guidelines for agricultural and rural development.)	(Proposed model description) To construct and institutionalize an extension system in the target area, (outcome) By demonstrating effective and efficient extension methods through the improvement of extension workers' extension methods and extension organizations' capacity, (output) Thereby contributing to the establishment of the extension system and its spread to other areas. (impact) (Standard indicator examples) 1. Indicator examples of overall goals (1) Application of the agricultural extension system adopted through the project in the target area (2) Participation of more than ○% of the small-scale farmers in the target area in the extension organization in their district	define the "model" or "system" concretely enough to illustrate. * When setting baseline and target numbers of quantitative indicators, it is important to set values based on the baseline survey and agricultural statistics and other information in the target country or region, referring to other, similar projects, because natural, agricultural, and social conditions greatly differ among countries and regions in the agricultural and rural development sector.	The staff of the counterpart agency and the level of expenses for activities often decline after the end of a project. Moreover, because it takes a lot of time to achieve results from the extension efforts, it is difficult to change the extension system during the short project period. • One of the reasons why any model project successful in the construction of the foundations necessary for technological introduction is not spread into other areas after the end of the project is the failure to establish capital necessary for technological introduction (land, water, distribution channels, each farmer's initial investment, etc.). Spread to other areas after technological introduction is often promoted under the responsibility of the recipient country. • Establishment of an extension system that supports technological introduction To improve the sustainability and	production delivery system in the project target area, By improving trained veterinary livestock extension workers' capacity to extend animal health and production delivery and give guidance about them and establishing models of technical information exchange and technical exchange among persons engaged in veterinary livestock, Thereby contributing to the strengthening of disease countermeasures (including those at the farmer level) and livestock technology extension activities (including veterinarian assistants). To construct a national extension system for comprehensive small-scale irrigation farming, By establishing an extension system for small-scale irrigation development packages for agricultural extension workers all over the country and systematizing skills and experience in small-scale irrigable areas all over the country, Thereby contributing to the extension and firm establishment of small-scale irrigation farming to improve food security in appropriate places throughout Malawi. To create a technical extension model for the small-scale livestock farmers in the target area, By making technical improvement of small-scale management mainly for the model groups selected in the target area and improving the extension workers' capacity and the extension system to	Malawi (Term of Cooperation: March 2006 – March 2009) 6. Improvement of Technical Extension for Small-Scale

		number of farmers per	the situation of the agriculture in the recipient country/region and based on Japan's experience and skills. In this regard, attention should be paid to the development level in each country/region. Because the technological content and level differ according to development level, it is necessary to evaluate the development level of the local agriculture and that of the domestic market properly and consider introducing appropriate technologies. • It is necessary to increase the beneficial effect of technical cooperation by financially supporting capital input necessary for the establishment of foundations for the introduction of technologies. (From "Thematic Guidelines – Agricultural and Rural Development") • In the countries where the public extension support system has not established or is weak, such as Bolivia, it is important to consider constructing
		reduced. * If there are characteristics according to race, gender, or farm size, it is useful to set indicators for each. * It is necessary to increase extension workers' capacity to conduct and analyze questionnaire surveys on	an extension model that combines school institutes and producers' associations that have technicians who have the technical capacity to train extension workers, have wide knowledge on implementing agencies (research institutes, universities, etc.) and the local situation, and can carry out extension activities with the cooperation of the implementing agencies. However, if the agencies have a strong political mission (public groups and agricultural pressure groups) and the project goal is inconsistent with the purposes of the agencies, it is necessary to pay attention to their low motivation and sustainability for the extension. On the other hand, if the project goal is consistent with the purpose of an organization as in the case of the producers' association in Yapacani, or if project activities can support an organization's business or service provision, inter-organizational cooperation is highly likely to work out well. (From Reference Project 6 written on the right)

	accumulated in Centro Nacional de Mejoramiento de Ganado Bovino with the cooperation of Japan, Thereby contributing to improvement in the productivity of the small-scale livestock farmers in the target area.	Cooperation: December 2004 – February 2008)
t of		
g D	To establish an agricultural technology support system for small-scale farmers through the reference farms in the pilot area in the State of Tocantins, By increasing extension workers' capacity, strengthening farmers' association, developing technologies necessary for farmers, and improving communications for the dissemination of agricultural technologies and information, Thereby contributing to the establishment of an agricultural technology support system for small-scale farmers in the State of Tocantins.	7. Strengthening the Agricultural Technical Support System to Small Scale Farmers in Tocantins State in Brazil (Term of Cooperation: April 2003 – March 2006)
e		
r		
ut		

JICA standard indicator reference and typical lessons learned in technical cooperation projects (agricultural and rural developmen
Model (11) Improving the distribution and sale of food

Development strategic objective	Mid-term objective	Indicators at a program goal level	Mid-term sub-target	Overall goals/Project purposes and indicator examples	Methods/ Policies for setting indicators	Typical lessons learned	Example of project purpose (image of projects)	Reference projects
Development strategic objective	Development thematic issue level to which the cooperation program corresponds	Connection with the target	Level of thematic issue to solve in individual projects	To (outcome) By/through (output) Thereby contributing to (impact) Indicator examples	Ways of thinking, points to remember, and important points in setting indicators	Write in lessons and risks to be necessarily used or reflected in implementing projects corresponding to the "mid-term sub-targets" from the perspectives of: 1) planning stages, and 2) management.		Project information with good practices to refer to
3. Promoting Dynamic Rural Communities	3-2 Improving the distribution and sale of food		set for the thematic guidelines for agricultural and rural development.)	associations' marketing capacity and sales negotiation power, and improving the capacity for quality management, such as post-harvest treatment for commercialization, (output) Thereby contributing to improvement in the target farmers' livelihood. (impact) (Standard indicator examples)	 * When setting baseline and target numbers of quantitative indicators, it is important to set values based on the baseline survey and agricultural statistics and other information in the target country or region, referring to other, similar projects, because natural, agricultural, and social conditions greatly differ among countries and regions in the agricultural and rural development sector. * If a project aims to increase the income of the female poor, measure impact on women by collecting data by gender. When setting the purpose at improvement in earnings or income, it is necessary to take measures concerning external conditions, such as preventing sharp declines in the prices of farm products. * Clarify the external conditions that influence household income. 	while the role of the private sector is extremely important, since the roles performed by government and the private sector vary depending on the stage of agricultural and commercialization development, the most important point to remember when formulating a project is to properly evaluate the stages of development for commercialization . In regions like Southeast Asia, as middle-income countries and medium-developed countries experience economic growth, it is expected that they will become progressively more commercialized and that the role of the private sector will grow. Therefore, in these regions, possible forms of support, in cooperation with the private sector, will also include reviewing policies, encouraging action by unions and other organizations and building technological capacity for the purpose of raising the connection between markets and farmer productivity and promoting the development of trade and markets. At the same time, even at these stages of development, it is also conceivable that governments will play an important role in some respects, such as in the development of modern markets and the introduction of more highly transparent trading systems, as well as in setting standards for quality classifications to support the sale of high-value-added products. For this reason, the series of processes from the production to consumption of agricultural products needs to be	By identifying the measures for promoting the distribution of high-quality domestic rice, improving the standards for the quality of domestic rice, strengthening the Agricultural Development Programme (ADP) staff's capacity to provide training in marketing and post-harvest treatment technology, and increasing the post-harvest treatment capacity of small-scale rice polishers, parboiled processors, and rice producing farmers, Thereby contributing to improvement in the quality of distributed domestic rice and reduction in the post-harvest loss rate in the project target states. To strengthen the management capacity of the project target small-scale horticultural farmers, By enabling the target farmers' groups to sell horticultural crops appropriately (gaining negotiation power), improving the production volume and quality of the target	Pilot Project in Nasarawa and Niger States (Term of Cooperation: September 2011 – September 2015)

nent)

JICA standard indicator reference and typical lessons learned in technical cooperation projects (agricultural and rural development
Model (12) Promoting the agricultural processing industry

Development strategic objective	Mid-term objective	Indicators at a program goal level	Mid-term sub-target	Overall goals/Project purposes and indicator examples	Methods/ Policies for setting indicators	Typical lessons learned	Example of project purpose (image of projects)	Reference projects
Development strategic objective	program corresponds	sector/regional development plans by the recipient country's government	Level of thematic issue to solve in individual projects	To (outcome) By/through (output) Thereby contributing to (impact) Indicator examples	Ways of thinking, points to remember, and important points in setting indicators	Write in lessons and risks to be necessarily used or reflected in implementing projects corresponding to the "mid-term sub-targets" from the perspectives of: 1) planning stages, and 2) management.	(image of projects)	Project information with good practices to refer to
3. Promoting Dynamic Rural Communities	3-3 Promoting the agricultural processing industry	(1) Ratio of undernourished population (2) Ratio of population under the international poverty line (3) Ratio of farmers to the rural working population (4) Producers' association membership ratio	set for the thematic	(Proposed model description) To establish foundations for value-added agriculture in the target area, (outcome) By developing a strategy for value-added agriculture through the improvement of farming, (output) Thereby contributing to the improvement of the target farmers' livelihood. (impact)	values based on the baseline survey and agricultural statistics and other information	surveys for narrowing down promising products and producing centers that could serve as business models, and to technical guidance for the improvement of processing, post-harvest processing and value-adding technology by experts and senior volunteers. Support for the establishment of farmers' organizations to serve as a pillar of the processing industry, and support for strengthening existing	value-added agriculture in the target area, By devising a value-added agriculture strategy through the improvement of farming, constructing a system for carrying out the strategy, and strengthening the capacities of relevant agencies and farmers, Thereby contributing to the improvement of the target farmers' livelihood through the implementation of the value-added agriculture strategy.	2. Project of Value-added Agriculture and Forestry for Improvement of the Livelihood of Small Scale Farmers in Northern La Paz in Bolivia (Term of Cooperation: March 2010 – September 2014)

nent)

	(Standard indicator examples)	* If a project aims to increase	
		the income of the female poor,	
	overall goals	measure impact on women by	
	(1) Target farmers' agricultural	collecting data by gender.	
	incomes	When setting the purpose at	
		improvement in earnings or	
		income, it is necessary to take	
		measures concerning external	
		conditions, such as preventing	
		sharp declines in the prices of	
		farm products.	
	2. Indicator examples of		
	project purpose		
		* Clarify the external	
	and the cities secure the budget		
		household income.	
	continuously carrying out the		
	value-added agriculture		
	strategy,		
	(2) The country, the province,		
	the cities, and the farmers'		
	associations play the roles		
	necessary for continuously		
	carrying out the value-added		
	agriculture strategy.		
	(3) A detailed operating plan is		
	authorized among the relevant		
	agencies according to the		
	value-added agriculture		
	strategy.		

To train group leaders for the	1. Project on
improvement of living and income	Community
in rural areas,	Leader
By carrying out research and	Development
analysis on the target groups' needs	in Agricultural
and present conditions, formulating	Cooperatives
training programs, providing	in Thailand
training for leaders, enabling the	(Term of
target groups to carry out	Cooperation:
monitoring and feedback to the	March 2007 –
provincial office of the Cooperative	February
Promotion Department (CPD),	2011)
providing the provincial office with	
information necessary for the target	
groups, such as the training	
provided by all the relevant	
agencies, using the leaders, CPD	
staff members, and agricultural	
cooperative members who have	
received training in Japan as human	
resources, and constructing a	
network of the target groups,	
Thereby contributing to the	
empowerment of the groups led by	
the trained leaders in the rural areas.	

JICA standard indicator reference and typical lessons learned in technical cooperation projects (agricultural and rural developme
Model (13) Community development type

Development strategic objective	Mid-term objective	Indicators at a program goal level	Mid-term sub-target	odel (13) Community d Overall goals/Project purposes and indicator examples	Methods/ Policies for setting indicators	Typical lessons learned	Example of project purpose (image of projects)	Reference projects
Development strategic objective	Development thematic issue level to which the cooperation program corresponds	development plans by the recipient country's government	Level of thematic	To (outcome) By/through (output) Thereby contributing to (impact) Indicator examples	Ways of thinking, points to remember, and important points in setting indicators	Write in lessons and risks to be necessarily used or reflected in implementing projects corresponding to the "mid-term sub-targets" from the perspectives of: 1) planning stages, and 2) management.	Example of project purpose (image of projects)	Project information with good practices to refer to
3. Promoting Dynamic Rural Communities	3-9 Participatory rural development	(2) Ratio of population under the international poverty line	(No mid-term sub-targets have been set for the thematic guidelines for agricultural and rural development.)	(Proposed model description) To promote and carry out a rural development project with the participation of residents in the district of ○ ●, (outcome) By strengthening a management system for promoting the project in the district, (output) Thereby contributing to improvement in the livelihood in the rural parts in the district. (impact)	is liable to report what information to whom, what	• Continuous conflict assessment during the project is important for making it possible to ensure the safety of the project and carry out the project smoothly. It is necessary to review the project design and the implementation system whenever there is a dramatic change in the environment and safety of any of the places where the project is carried out. (From Reference Project 9 written on the right)	infrastructures by Community Management Rehabilitation (CMR) under the leadership of communities and improving the technologies for increasing incomes other than agricultural ones, Thereby contributing to the vitalization of the rural areas in Trincomalee District by the development model constructed in the project for	9. Project for Agricultural and Rural Development for Rehabilitation and Reconstruction through Community Approach in Trincomalee District in Sri Lanka (Term of Cooperation: October 2005 – October 2009)
				 (Standard indicator examples) 1. Indicator examples of overall goals (1) By 20XX, the number of food aid beneficiaries will decrease by X% in the rural areas in the district of O●. (2) By 20XX, the incomes of X% of the households in the district of O● will increase by Y%. 		 Inadequate capacity assessment of beneficiaries for the purpose of considering what kind of participation is wanted In rural areas of developing countries, often there are no prospects for resources (personnel and budget) to provide administrative services, and so ensuring the potential for self-sustainable development centered on resident participation is an issue. Understanding the capacity of local communities, and setting corresponding goals For local governments with weak implementation systems, in order to implement participatory rural 	mechanisms for participatory village development in isolated areas (PaViDIA), By establishing a project management agency, a sustainable agricultural technology package (manual and model	of

nent)

* When setting baseline and target numbers of quantitative indicators, it is important to set values based on the baseline survey and information in the target natural, agricultural, and among countries and regions in the agricultural and rural development sector.

One effective way of steadily fosterin the self-reliance of local residents is t agricultural statistics and other approach of refraining from external inputs as much as possible. In this case country or region, referring to following the advice of external other, similar projects, because parties, first incorporate components likely to produce benefits in a social conditions greatly differ relatively short period of time for sma groups of resident participants, such a the better use of local resources, and allow the residents to experience personally the merits of participatory development. Then, while maintenand may be time-consuming, consideration can be given to the step of establishing and engendering activities in the medium and long term which, maybe time-consuming but, have considerab shared benefits to participants. Community organization In projects for participatory rural development, community-based organizations are often formed as a means of encouraging resident

2. Indicator examples of project purpose (1) By 20XX, the district of • will approve the resident-participatory agricultural and rural development guidelines prepared based on the pilot activities in the district of) 🔴 .

(2) Monitoring report meetings will be held Y times by the district's rural promotion office and the target groups of farmers. (3) By 20XX, the number of agricultural and rural promotion projects will become XX or more in the district of \bigcirc • that has been proposed, examined, approved, and begun according to the resident-participatory agricultural and rural development guidelines. (4) By 20XX, the budget for

	development more effectively, first, using rural community surveys and other means, ascertain the inherent factors of the local administration, community and residents, and set goals appropriate for these factors, before selecting a resident-participatory approach for achieving these goals. (From "Thematic Guidelines – Agricultural and Rural Development," p. 150~151)		
r e	 Drganizing the classifications of financing in resident-participation projects One effective way of steadily fostering the self-reliance of local residents is the approach of refraining from external inputs as much as possible. In this case, following the advice of external parties, first incorporate components likely to produce benefits in a relatively short period of time for small groups of resident participants, such as the better use of local resources, and allow the residents to experience personally the merits of participatory development. Then, while maintenance may be time-consuming, consideration can be given to the step of establishing and engendering activities in the medium and long term which, maybe time-consuming but, have considerable shared benefits to participatory rural development, community-based organizations are often formed as a means of encouraging resident participation efficiently and fairly, and as a forum for the learning process for empowerment. In general, using existing organizations or decision-making mechanisms is efficient and effective. In cases where it is unavoidable that the formation of a new organization be promoted by an outside party in order to achieve the project goals, generally speaking, the organization multiporcess. However, in reality, in a limited period of cooperation, completing social preparation before proceeding to the next step is both difficult and entails a strong possibility that, during this time, the willingness of residents to participate will diminish. Adjustments need to be made for this divergence 	To link the village residents to the terminal administrative agency for rural development, operate a link model in the target area so that the village residents' intentions can be reflected in the development in the target area, and establish a system for extending the mechanism, By training a Union Development	11. Participatory Rural Development Project Phase II in Bangladesh (Term of Cooperation: June 2005 – May 2010)

		the district of $\bigcirc \bullet$'s promotion of agricultural and rural promotion projects will increase by ZZ% and the number of applications will increase by XX%.	between theory and practicality once those involved have clarified the objectives and constraints. (From "Thematic Guidelines – Agricultural and Rural Development," p. 151~152)
--	--	--	---

BRDB strengthen the system for carrying out the link model and establishing a system for developing human resources for the dissemination
" of the link model, Thereby contributing to the reflection of village residents' intentions in the development through a mechanism suitable for the local characteristics in Bangladesh.