

Japanese B encephalitis, and 1 with tetanus. The remaining 5 could not be diagnosed because the carcasses had been scrapped. Consequently, the deaths are considered to have been caused by factors other than vaccination. Vaccination with these 3 vaccine viruses gave satisfactory immunity to the most vaccinated pig. The neutralizing antibody rose to high level, ranging from 1 : 32 to 1 : 521 in titer. On the other hand, vaccination with crystal-violet vaccine gave neutralizing antibody titers in the lower level ranging from 1 : 2 to 1 : 16.

The field trials reported herein indicated that the living hog cholera vaccines of tissue culture origin developed in Japan gave successful results with regard to their safety and immunogenicity.

References

- 1) Kawakubo, A., Sameshima, T., Kurata, I. and Hayashi, N.: Attenuation of lapinized hog cholera virus (SFA strain) in continuous culture of established PS cells. Proceeding of the 57th Meeting of the Japanese Society of Veterinary Science (1964)
- 2) Kumagai, T., Shimizu, T., Ikeda, S., and Matsumoto, M.: A new in-vitro method (END) for detection and measurement of hog cholera virus and its antibody by means of effect of HC virus on Newcastle disease virus in swine tissue culture, I. Establishment of standard procedure. *J. Immunol.* 87, 245-256 (1961)
- 3) Sasahara, J. and Kumagai, T.: Live virus hog cholera vaccine in Japan. Working paper No. 21. FAO/OIE international meeting on hog cholera and African swine fever. (1965)
- 4) Sato, U., Nishimura, Y., Hanaki, T. and Nobuto, K.: Attenuation of hog cholera virus by means of continuous cell-virus propagation (CCVP) method. *Arch. Ges. Virusforsch.* 14, 394-403 (1964)

As was already reported in newspapers or on waves, the Conference on Agricultural Development in Southeast Asia was held in Tokyo last December.

The Conference especially placed a stress on and reaffirmed the importance of improvement of agricultural techniques. For that reason, the editors intended to introduce STATEMENT read by His Excellency Mr. Tadao Kuraishi, Minister of Agriculture and Forestry of Japan and the full text of JOINT COMMUNIQUE hereunder.

Comments on the concept of technical improvement of agriculture in Southeast Asia will be warmly welcomed by the editors.

STATEMENT BY HIS EXCELLENCY MR. TADAO KURAIISHI, MINISTER OF AGRICULTURE AND FORESTRY OF JAPAN

It gives me great pleasure to witness the opening of the Conference on Agricultural Development in Southeast Asia, with the participation of prominent officials responsible for agricultural development policy from our friendly neighbors of Southeast Asia, as well as representatives from FAO, ECAFE and Asian Development Bank.

It was at last April's Ministerial Confer-

ence for Economic Development of Southeast Asia that the important role of agriculture in economic development was emphasized, and out of that Conference has been born the present meeting. This very fact, I believe, is a proof that there now exists a common recognition among us of the importance of agricultural development. It hardly needs to be restated that the majority of peoples of

Southeast Asian nations are engaged in agriculture, which constitutes a key sector of each nation's economy in this region. The role of agriculture in a nation's economy is primarily to provide a stable source of food supply for the nation's population. Agriculture, in addition, occupies an extremely important position as a market for industrial products or as a source of supply of manpower or capital to other sectors of the economy. It follows, from these facts, that, without agricultural development, it would be highly difficult to promote industrialization or to develop the economy in a well balanced manner. Turning to the reality of present-day Asia, it should be noted that, while marked increase in population is pushing up the demand for foodstuffs, agricultural production is showing little increase recently. This is a problem that commands our serious attention if we are to improve and stabilize the livelihood of peoples in Asia. Moreover, this has caused a severe strain upon these nations' foreign exchange balances through increased food importation, and there by substantially restrained economic development. From such consideration, I am convinced that expansion of food production has now become an urgent task in promoting agricultural development in Southeast Asia.

The importance of food and agricultural problems such as these has, in recent times, been pointed out as a matter of common concern, though in varying degrees, to all the developing regions of the world. I would say, however, that especially in Asia the condition is most serious. Under these circumstances, international institutions such as the Food and Agricultural Organization (FAO) and the Organization for Economic Cooperation and Development (OECD) are showing, as we all know well, a determination to cope with this problem in a positive manner. One fact, which particularly draws my attention in such international trend, is the emphasis placed upon the concept that assistance in food can only perform a temporary role in solving the food problem of developing nations, and that the advanced nations should enlarge their agricultural development aid on the premise that the developing nations themselves endeavor

to develop their own agriculture. This world-wide realization is quite pertinent to the problem, I personally fully subscribe to this view. In the light of Japan's own experiences, I wish specially to emphasize that, for agricultural development to be successful, it is necessary to build up voluntary endeavors on the part of everyone in the nation from the government to the farmer.

Agriculture in Southeast Asia presents a considerable variety in form from one country to another, or even from one area to another within a country. However, the region's agriculture possesses a few characteristics which are common to all nations... that essentially all countries are located within the monsoon belt, that the center of agriculture is rice cultivation by small-scale farmers, and that rice constitutes the principal food item of the peoples. Accordingly, if we are to expand our food output and to raise the standard of living of the farmers, the task of improving rice production becomes an urgent matter. However, in the past, rice cultivation in this region has been carried out in a very conventional manner, leaving much to the dictates of nature. Serious damages frequently result from floods, rainfalls and other natural phenomena. Consequently, productivity is low; and harvesting is necessarily quite unstable. Having considered these aspects, I wish to take this opportunity to place special emphasis upon the necessity of stabilizing and enhancing the output of rice... through improvement of agricultural infrastructure, improvement of rice-cultivation techniques, and other means... in any discussion of future agricultural development in Southeast Asia.

Japan, as an Asiatic nation, and from the point of view I have thus far described, will spare no efforts in providing cooperation to the fullest extent, for agricultural development in Southeast Asia in the times ahead. Concerning agricultural technical cooperation that we have been extending to date, we intend to further expand such cooperation as well as to continue to study effective means for realizing such cooperation. Furthermore, in order to establish a firm basis for such technical cooperation, we are desirous of pro-

moting and encouraging experiments and research in Japan in tropical agricultural technology.

Now, a word on fishery development. In light of the paucity of livestock and related production in Southeast Asia, fish constitutes an important source of supply of animal protein. On its part, Japan wishes to pay special consideration in future to increased cooperation in the field of fishery.

Mr. Chairman, in concluding my remarks, I sincerely hope that this Conference will,

through a frank exchange of views on the direction of agricultural development and on the various problems that confront such development, deepen the understanding among the leaders of all the participating countries on their common problems and give an impetus to international cooperation for agricultural development in the Southeast Asian region, which would indeed constitute a meaningful contribution to the great objective that faces this region.

JOINT COMMUNIQUE

1. The Conference on Agricultural Development in Southeast Asia was held in Tokyo on the 6th, 7th and 8th of December, 1966, in accordance with the agreement reached at the Ministerial Conference for the Economic Development of Southeast Asia which was held in Tokyo in April this year.

2. The Conference was attended by Mr. Ho Tong Lip, Head of the Agricultural Research Division, Kingdom of Cambodia; Mr. Amien Tjokrosuseno, Secretary-General of Ministry of Agriculture, Republic of Indonesia; Mr. Bophat Chanthapanya, Director of Board of Forestry and Irrigation, Kingdom of Laos; Mr. Chew Hong Jung, Deputy Director of Agriculture, Malaysia; Dr. Dioscoro Umali, Under-Secretary of Agriculture, Department of Agriculture and Natural Resources, Republic of the Philippines; Mr. Choy Thoong Loke, Assistant Director of Primary Production, Ministry of Law and National Development, Republic of Singapore; M. R. Chakraborty, Under-Secretary of State for Agriculture, Kingdom of Thailand; Mr. Ton That Trinh, Adviser to the Minister of the Presidency, Republic of Vietnam and Ambassador Katsumi Ohno, Mr. Seizo Takeda, Vice-Minister of Agriculture and Forestry, Japan.

3. The Conference was also attended by Mr. Takeshi Watanabe, President of the Asian Development Bank; Mr. Mitsugi Yamashita, Chief of ECAFE-FAO Agriculture Division of ECAFE and Mr. Ahsan-ud-Din, Regional

Representative for Asia and the Far East of FAO as observers.

4. Prime Minister Sato, in his welcoming address, referred to the urgent need of increasing food production in view of the trend of population increase in Asia and stressed the important role which agriculture played in the economic development of Southeast Asia. He stated that in promoting agricultural development wisdom and patience were necessary and also that earnest efforts at self-help should be made in a continuing and cumulative process. The Prime Minister further stated that Japan, with this Conference as a stepping stone, would further promote its economic and technical cooperation in the field of agriculture.

5. The Conference was conducted throughout in a friendly and informal atmosphere and lively discussions took place on the problems relating to agricultural development in Southeast Asia.

The Conference reaffirmed the important role which agriculture has to play in the economic development of Southeast Asia, and, fully appreciating the various difficulties accompanying agricultural development, recognized that there were considerable areas where cooperation among Southeast Asian countries was possible in overcoming these difficulties. The Conference also recognized that, for the purpose of coping with the marked increase in population, the most pressing and common task in the agricultural development of Southeast Asia was to expand

steadily the production of food, especially that of rice which is the staple food in this region.

The Conference emphasized the need for greater financial resources for agricultural development of Southeast Asia.

6. The Conference discussed various problems concerning improvement of agricultural techniques. It reaffirmed especially the importance of increasing the yield per unit area in rice cultivation which was the mainstay of agriculture in the countries in Southeast Asia. It also stressed that, for this purpose, it was necessary to improve agricultural techniques in various fields such as improvement of varieties, application of fertilizers, improvement of methods of cultivation, and pest and disease control, in a manner compatible with the actual condition of agriculture in each country as well as in each region within country.

The Conference especially stressed, with regard to improvement of agricultural techniques, the important role to be played by extension service by which techniques could be disseminated to farmers.

In this connection, the Conference reaffirmed that efforts should be made to improve the methods of extension so that new techniques could be easily understood and utilized by farmers, and that, in experiment and research, emphasis should be placed upon the development of practical techniques. Mention was made that in conducting any extension programmes, various agricultural materials and facilities should be provided, and definite steps should be taken to develop local resources to maximize agricultural production. At the same time, in the field of extension, its importance with respect to home management was pointed out.

In order that extension may be effectively carried out, the Conference stressed the important role to be played by extension workers and their training. In this context, a suggestion to establish a training center for agricultural extension personnel was made, and in this connection, the need for its coordination with the activities of international organizations was pointed out.

The important role of educational institutions such as universities in extension work was emphasized.

The Conference stressed that it was desirable to promote regional cooperation with a view to exchanging information concerning new agricultural techniques and knowledge.

7. The Conference discussed problems concerning improvement of the agricultural, infrastructure, and reaffirmed that, if agricultural production is to be expanded steadily, it would be necessary to secure the constant supply of water by constructing irrigation and drainage facilities and carrying out flood control projects.

The Conference considered it desirable from the standpoint of effective utilization of water resources that projects for irrigation and drainage should be implemented on a large scale and as an integrated part of multi-purpose development plans for water resources.

However, the Conference confirmed that, in order that food production may be expanded promptly and effectively, it was necessary to place emphasis upon medium- and small-scale irrigation and drainage projects which were directly connected with agricultural production, and which were more effective for promoting agricultural development, as well as to carry out necessary measures to promote the betterment of agricultural management and expansion of farmland.

8. The Conference recognized the important role which industries related to agriculture and fisheries, such as industries connected with the manufacture of fertilizers, agricultural chemicals, agricultural machineries and fishing gear as well as processing industries for agricultural and fishery products, play in promoting agricultural development. The Conference also pointed out that, with a view to adopting measures for planned development of the related industries, thorough studies into the potential growth of each industry should be made. In this connection it was also stressed that due consideration should be given to the stage of agricultural development as well as the economic plan of each country.

With regard to industries which demand large scale production such as the fertilizer industry, it was pointed out that regional cooperation was needed.

9. The Conference discussed problems related to the improvement of marketability of agricultural products and recognized that in order to expand agricultural production and to increase the international competitive power of agricultural products, it was necessary to lower their production cost, to improve their quality and to take necessary measures including development of agricultural cooperatives and improvement in the distribution facilities of agricultural products, transportation and storage. It was pointed out that regional cooperation among Southeast Asian countries would be an advantage in improving the marketability of agricultural products. In this connection, the important role of international commodity agreements was stressed. At the same time, it was pointed out that such international organizations as UNCTAD, FAO should be fully utilized.

Concern was expressed at the Conference over the declining prices of primary products and the attention of international organizations was drawn to the urgent need to arrest the deterioration in the terms of trade.

10. With respect to the financial aspect of agricultural development, the Conference recognized the necessity of increasing investments in small- and medium-scale or feeder irrigation and drainage projects and in the development of industries related to agriculture, and pointed out the importance of securing the necessary funds domestically through the efforts of both the government and private sectors. In view of the overall shortage of domestic funds in each country in this region, however, the Conference recognized the necessity to establish a fund to be loaned with liberal terms for agricultural development projects of Southeast Asia as a special fund of the Asian Development Bank. The Conference agreed to call on the developed countries and the Asian Development Bank to cooperate in setting up such fund and to request the

Asian Development Bank to start immediately deliberation on various problems concerning the establishment of the fund, giving due consideration to the views of participating countries of this Conference as well as of other interested parties.

11. The Conference recognized that, from the standpoint of increasing the food supply and of improving the nutritional standard, especially of increasing the supply of animal protein, the promotion of fishery development was necessary. It was further recognized that it was important to work on research, development and extension of fishing techniques well-suited to Southeast Asia, the training of fishing technicians, and the investigation of fishery resources as well as to promote the modernization of coastal fishery and the development of off-shore fishery. It was pointed out that for several countries inland water fishery was very important and that there was a need for multiplication and conservation of inland water fishery resources.

With reference to the regional Marine Fisheries Research and Development Center, the establishment of which was proposed in the Ministerial Conference of April this year, concrete proposals for its establishment were submitted by the Delegates of Singapore and Thailand.

The Conference agreed that a study on specific questions concerning the setting up of the Center would be made by a study group consisting of experts from the countries concerned, giving due consideration to such proposals and related discussions in this Conference, and that Japan, as the host country, would be entrusted with the responsibility for organizing the study group.

12. The Conference recognized that the present type of conference was useful in promoting the agricultural development of Southeast Asia and that it would contribute greatly to bringing about prosperity and stability in Southeast Asia and agreed to entrust the Ministerial Conference for the Economic Development of Southeast Asia to be held in Manila in 1967 to decide whether this sort of conference should be held in future.