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SEADAG REPORTS



# AGRICULTURAL INNOVATION IN SOUTHEAST ASIA:
# THE IMPLICATIONS FOR DEVELOPMENT

Second SEADAG International Conference
On Southeast Asian Development Research

June 24-26, 1969
Asia House, New York



*SEADAG Reports are intended to inform the reader of the participants, agenda, support materials provided, and major conclusions of SEADAG meetings. They are meant in no way to recapitulate discussions, nor specify the contributions of participants.*

MEETING OF: Second SEADAG International Conference on *Agricultural Innovation in Southeast Asia: The Implications for Development*

TIME AND PLACE: June 24-26, 1969
New York

PARTICIPANTS:

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# AGRICULTURAL INNOVATION IN SOUTHEAST ASIA:

# THE IMPLICATIONS FOR DEVELOPMENT

Second SEADAG International Conference on
Southeast Asian Development Problems

June 24-26, 1969

ACTION REPORT

For the second time social scientists and representatives from the public and private sectors in Asia and the United States met, under SEADAG auspices, to discuss problems of development in Southeast Asia. The purpose of this conference was three-fold: 1) to consider the social, political, and economic implications of agricultural innovation in Southeast Asia, 2) to attempt to anticipate and suggest solutions to development problems created with agricultural innovation, and 3) to examine possible implications for policy and programming for Southeast Asian governments and foreign assistance.

Formal and general discussion focused on the presentation of five papers reflecting the concerns of different disciplines.

## I

Gelia Tagumpay-Castillo, *Agricultural Innovation and Patterns of Rural Life*

Mrs. Castillo's paper discussed the impact of agricultural innovation--specifically "miracle" rice varieties--on rural life, with particular reference to the Philippines. Patterns of communication, adoption, response and adjustment were identified and described, presenting evidence challenging to previous assumptions regarding the acceptability of innovation by farmers.

1. Contrary to the Western model which presupposes the role of the extension worker and mass media as sources of information on innovations, the Filipino farmer depends on personal sources--the self, neighbors, and co-farmers--for the communication of information.

2. Unlike the Beal-Bohlen adoption model, which postulates that farmers go through five stages of awareness, interest, evaluation, trial, and adoption, Filipino farmers most frequently proceed directly to adoption after obtaining initial information on innovations.

3. New trends, norms, behavior patterns in village life have resulted from adoption of innovations, among them, increased mobility, the growth of contractual relationships, heightened aspirations and expectations, and emerging entrepreneurial behavior. With these changes new requirements have developed: the need for collective action, the need for greater linkage with the outside world, and the demand for wider coverage of the land reform program, but most of all a firm understanding of patterns of adoption in Southeast Asia. *All these require basic structural changes and new concepts with greater explanatory power that avoid the generalization that farmers who do not adopt are tradition-bound. The socio-psychological approaches of the past are no longer sufficient.*

Mrs. Castillo concluded her paper with a plea for attention to two neglected areas of study--*poultry and livestock innovations and studies of large agri-business enterprises:* the first because they require direct transplantation of technology from the developed world; the second because of the almost instant modernization which accompanies their establishment.

*Three main points emerged from Professor Nash's discussion:*

1. That new models of complex societies and the analysis of technological innovation must be developed. Today, the standard of innovation is the agro-system and structural variables. Not only the farmer but everybody is affected by innovation and change.

2. That in modernization the big inputs are from the research centers and research scientists. Farmers make only small changes in Southeast Asia; their felt needs do not provide the solutions to economic and social problems.

3. That the Philippines is probably not the best model for the rest of Southeast Asia. More ethnically homogeneous, with an elite willing to pay the price of increased mobility, it can afford the image of social risk.

*General discussion produced the following recommendations for action and research:*

1. Greater development effort concentrated on unfreezing the institutional or infrastructural constraints on the implementation of innovation.

2. Redefinition of the functions of the extension worker and/or the community development workers in the light of recent innovations a) to help farmers deal more effectively with forces and institutional frameworks outside themselves, and b) to constitute a bridge for the introduction of educational reform, and to provide in the educational system a greater connection with rural life in general.

3. Greater emphasis on the role of technocrats in spreading the new science, and in convincing leadership there is a political payoff in making decisions that lead to economic growth and modern agriculture.

4. The incorporation of foreign and indigenous entrepreneurial groups, particularly the Chinese, in planning, for they play a crucial role in the spread of new technology.

5. Studies on large-scale agri-business enterprises, with all the institutional implications and impact on society.

6. Knowledge of a) the role of government interference in adoption of IRRI and the redounding effect on political issues, b) the relationship of innovation to political stability, and c) the question of how government can operate without becoming exploitative.

7. The reasons for the discontinuity in the rate of adoption in different countries; more precise knowledge of the role of farmers in the adoption process and cultural variations.

8. Studies on the impact of urban/metropolitan areas on the surrounding countryside with respect to adoption of innovations.

9. The effects of adoption of IRRI varieties on patterns of immigration from non-IRRI to IRRI areas, and the effect of increased mobility on rural life in general.

10. Studies of the economic aspects of adoption of new rice varieties (cost-benefit calculations, etc.)

11. Studies on the role of mass media in the introduction of change.

12. Studies on innovation as a means of getting education more practical (need to understand and acquire a sense of management).

13. Exploration of the permeability of innovation into the social fabric as a means of changing rural and community life itself, and as a route to a more general concept of modernization in other cultural practices (education reform, technological role of women, family planning, etc.)

II

Nongyao Karnchanachari, *Agricultural Innovation: The Challenges to Education and Manpower Development*

Mrs. Nongyao's paper (with emphasis on Thailand) lists major constraints on agricultural development in Southeast Asia as the lack of organization, human capital, and infrastructure, but above all the nonavailability of agriculturally-trained personnel in the research and experiment stations, in the extension agencies, in the cooperative units and even in the administrative departments dealing with agriculture. It is futile, she stated, to proceed on a program of institutional innovation without ensuring beforehand the availability of trained manpower. *Comprehensive plans must be devised for agricultural education and training that will concentrate on producing manpower quantitatively and qualitatively to meet the requirements of the agricultural revolution. For this, manpower forecasts are essential.*

*Mrs. Nongyao and others proposed the following program for all levels of education:*

1. Primary: A greater orientation of teaching personnel to agriculture; a revision of existing curriculum that would inculcate in students a greater "consciousness" of the importance of agriculture.

2. Secondary: to improve general background in natural sciences, mathematics, social sciences and humanities, and to increase the potentiality of students to undertake independent studies.

3. Education of farmers: to establish centers for vocational training and local leadership development out of school, with a curriculum oriented to local farming practices and concerned with farmer's current needs and interest. If not feasible, then to establish demonstration plots.

4 Vocational and Technical Agricultural Education and In-Service Training: Because this middle-level trained personnel will be working most closely with farmers, curriculum should emphasize practical ability; schools should be situated close to farms and experimental stations It was agreed that in-service training should be used far more; however, in Thailand, at least, this is difficult as there are no indigenous factories and foreign ones "do not seem to want to train native talent."

5 Higher Education: The absence of a national higher education plan in Thailand is in part explained by a lack of understanding of objectives Institutional research should be given first priority in universities Southeast Asian countries should discard the educational pattern taken over from the highly industrialized countries in the West and build into the curriculum those subjects which are essential from the point of view of the well-being of the country Greater emphasis, for example, should be given to the study of natural resources

6 Agricultural Research: Decisions should be made on where is the best place to concentrate this research--in agricultural colleges or in universities All efforts should be made to solve the problems common to the region

The objective of development, Mrs Nongyao stated, is independence from foreign assistance; foreign assistance is essential, however, in order to obtain this objective. *Mrs. Nongyao voiced objections to some aspects of outside assistance in the past, and urged that henceforth American-supported projects abide by the following guidelines:*

1. That foreign assistance in the future be balanced in favor of education

2. That there be absolute candor between foreign experts and their indigenous counterparts

3. That foreign researchers ascertain whether a project will be beneficial to the country and whether real cooperation will be gained

4. That project leaders check on Asian counterparts to be sure they really understand the objectives of the project

5 That foreign experts be serious, sincere people who can contribute not only to knowledge but who know the country, have a feeling of the society, and will lead it in the right direction

In the discussion of Dr. Fischer and others exception was taken to the faith expressed by some conferees in the ability of manpower forecasts to anticipate changing requirements Good manpower studies have been done, it was said, but how much utility they are with respect to educational planning and consequences for agricultural development is to be questioned. *More research is needed on education and the relationship between education and agricultural development*, i.e what political/social difference does it make to have a new grade of rice, or to have a new kind of school? Why do people go to school? Which kinds of curriculum produces the kinds of skills that development requires? Why do students choose certain fields and what happens to them after they graduate? *The point is not how many people are educated but how they perform when they are adults and where*

*they will be placed.* Most countries now depend on the supply and demand system; this is too costly. Countries need an effective mechanism for placing graduates where they are wanted.

Again, educational systems tend to be reinforcement systems rather than change-oriented systems, and tend to enhance those values which represent power and status, especially at the highest levels. Agricultural schools are particularly intractible to change. Therefore, *to transform the educational system implies a transformation of other value-setting institutions as well.*

*Development-oriented education, in the view of Dr. Fischer et al should not be separated from the general education process; at the same time social science and humanities should be part of applied knowledge. Education should also be differentiated at the higher levels, not tied to the same regions or serving the same function. It should encourage the transmigration of talent across national borders. Southeast Asia needs as well to explore the possibility of developing terminal vocational and even secondary schools by developing economic rewards powerful enough so that people will forego the rewards of social status.*

*Remarks concerning the short-term vs long-term approach to education were forthcoming.* One view asserted that educational planning should be thinking now in terms of 50 years, i.e. training the people who are going to be leaving the farms by developing industrial schools, and vocational industrial education at the secondary level. However, it was noted, in the next generation, the numbers of people depending on farming is going to increase, not drop. The focus should be on training these people--for agricultural research, and for other vocations--and then providing them with job opportunities. Concomitantly, employment of people outside agriculture will be done by industry--that is, *if proper planning is given to the evolution of the private sector.*

Another aspect of the emphasis on vocational and technical training in the short-run was the necessity of, and restrictions on, exploiting the mechanical breakthrough and accumulating capital for investment for long-run development. It was recommended that advanced countries work with developing countries to exploit short-run possibilities so that in the long-run they will not be dependent on outside aid.

*Although the urgency of a development orientation in the educational system was accepted in principle, a plea was made for a broader type of educational system which can produce people with political vision--leaders which, in the words of Ambassador Soedjatmoko, can "answer questions of a normative and political nature that are beyond matters relating to development." Skills are only one aspect of the requirement. For, as a result of innovation, there are structural changes, inequalities, social tensions. Someone has to answer what kind of society is wanted once innovation is introduced.*

*Further discussion produced the following recommendations:*

1. That there is a great need for effective management education in Southeast Asia. It was recommended that the agri-business pattern can be used as a frame of reference for educational planning and placing people where they are needed, whether on the farms, in marketing, management, production, etc.

2. That farmers are now anxious to obtain the things that money can buy; such farmer aspiration should be combined with vocational and in-service training.

3. That until less developed countries produce sufficient and high-quality personnel needed, expertise in planning and the people needed to do research must come from the advanced countries.

## III

Lester R. Brown, *Implications of Agricultural Innovation for Southeast Asia's Pattern of International Relations*

Mr. Brown's paper and succeeding discussion was concerned primarily with the impact of the new rice varieties on the patterns of grain trade in Southeast Asian countries and the resulting political implications. Increased rice production made possible by the new IRRI varieties is now inducing some rice deficit countries to aim for "self-sufficiency" in rice, and many other Southeast Asian countries to produce an exportable surplus. As attempts to export the surplus follow, prices will fall, so that only those areas with a comparative advantage in rice production will be able to export economically. The other areas will be compelled to divert their acreage to alternative crops such as feedgrains for the livestock industry and fruits and vegetables (against which there are many impeding factors.)

Mr. Brown suggested that as Japan remains potentially the largest market for agricultural surpluses from Southeast Asia, it would be only a matter of "economic rationality" for her to cut back significantly on her rice production, and import from Southeast Asia. However, there are no indications at present that she intends to do so, or indeed that other exporters from the advanced countries will soon arrive at international agreement on the reduction of surpluses.

In the existing absence of world-wide agreements, Mr. Brown proposed that Southeast Asian countries reach some form of flexible regional agreement of their own, possibly to be set up under the FAO Study on Rice or the Asian Development Bank. It was agreed, however, that this would be difficult, partly because Southeast Asia does not now have the resources to make it effective.

*Areas in which participants thought Southeast Asian countries could feasibly work together were cited:*

1. To improve existing arrangements for forecasting import requirements and export availabilities and in providing information on prices, contracts, stocks, production programs and targets.

2. To make inputs in research, water control, nutrition, fertilizers, pesticides, exchange of extension methods, regional resource surveys, and coordination of statistics.

*In addition, advanced countries can contribute both direct and indirect assistance in the following ways:*

1. To provide systems of storage, transportation, processing and marketing to lighten the burdens of agricultural storage.

2. To aid generally in teaching, training, organization, extension and research.

3. To help to overcome limitations in physical and institutional infrastructure by providing expertise and capital resources.

4. To maintain farmers' incentive by coordination of food aid (PL 480) between the U.S. and Southeast Asia.

5. To stabilize the export of products other than rice.

6. To develop viable national and regional research systems that would coordinate with international centers to do the following research:

a. To produce viable biologically efficient alternative crop varieties adapted for each major ecological region.

b. To encourage the establishment of an Asian Institute for Irrigated Agriculture that would attack problems of a rain-fed agriculture by making the most effective use of resources and meeting problems of diffusing water management practices.

c. To restore the traditional balance among tropical crops radically upset by rice.

7. To make diversification from rice production profitable and to encourage the activities of private companies to develop crops on a commercial basis.

8. To suggest programs and policies to broaden the industrial use of rice.

9. To solve the problem of concessional trade between developed countries and rice deficit countries, for the major rice exporters of Southeast Asia are losing a valuable market because of these arrangements.

10. To stabilize rice trade and rice price (not only Japan, but Mainland China and especially the United States should play a greater role.)

It was Dr. Brown's contention that an intelligent and coordinated prosecution of the agricultural revolution can help in the creation of effective and stable national units in Southeast Asia. *This depends, however, on an effective attack upon problems of export surpluses and the over-burdening of marketing storage systems.* Appropriate policies should be taken to diffuse the benefits of the new technologies as widely as possible, to offset opportunities for insurgency and to remove the necessity of border squabbles.

It was pointed out that although today we may be facing the problems of oversupply, this will be postponing the Malthusian problem. A long-term solution to the race between food production and world population depends not only on technology but on: 1) stabilization of the population; 2) on an increase in

the rate of growth of development in the next decade by 1 or 2 per cent minimum, and 3) on the distribution of this per cent among the people who have no purchasing power in order to enlarge internal demand. This implies *1) a shift from efforts to understand the biological environment tc an emphasis on population problems; 2) an industrial revolution in the wake of the green revolution; 3) a critical revision of world policies on trade; and 4) a revision in the protectionist policies of all developed countries to allow for a redistribution of labor-intensifying activities among development countries. 5) It means that Southeast Asian nations must overcome their narrow sense of nationalism and aim for some kind of regional cooperation. They must pool their markets in order to allow for regional specialization and beyond this, for specialization in the world market.*

## IV

### Vu Van Thai, *Agricultural Innovation and its Implications for Domestic Political Patterns in Southeast Asia*

Mr. Vu Van Thai's presentation focused on the question of whether agricultural innovation in Southeast Asia will bring about political stability or instability. In rural areas undergoing the green revolution it is all but inevitable that social and political awareness will follow greater economic consciousness. The concern is whether political institutions will evolve fast enough to cope peacefully with this political force and whether governments will be able to design policies that will keep under control problems generated by technological change. Among these problems are the gaps likely to develop in the social structure of a country, creating patterns of rural violence--gaps between rich and poor farmers, within areas which are undergoing the green revolution, and between those areas and areas which are not. Is the alternative to keep the agricultural revolution under prudent control? Mr. Thai suggests than any such attempt would represent a regression in the process of political modernization and would result in a long process of endemic violence. The other course of rising to the challenge will produce instability and violence, to be sure, but will involve the larger groups awakened by the green revolution. The result of this kind of upheaval is most likely to be new political institutions allowing for greater participation of the rural classes and the emergence of an enlightened leadership.

In suggesting the course of pushing the agricultural revolution, Mr. Thai warned against confusing economic growth with development. Countries must drastically revise their economic development strategies to give first priority to the creation of employment, to the reduction of income disparities, and the extension of income to the poorer classes. At the same time the population explosion will have to be curbed.

In the discussion, Mr. von der Mehden and others agreed that the green revolution should not be held back--that in any case it is very difficult to assess the results--whether an engine of revolutionary change or just another commodity boom--of stagnation or development or to make meaningful correlations between social development and organized rural violence. In the meantime, by pursuing agricultural development, "at least the people will be fed."

Regarding Mr. Thai's statement on the dilemma of governments keeping up with the rate of change, it was pointed out that the real dilemma is how to keep the green revolution going, i.e. *how to build economic growth on an agricultural base that is already existing.* This requires not only technology but enough high quality personnel who can handle a complex bureaucracy and who at the same time can relate symapthetically to a rual population. It implies finding export markets, diversifying crops, improving per capita consumption, expanding water resources, and so on. It implies, in other words, creating a market agriculture closely geared to the economy of the whole country and shifts in commodity, population, technology, and the proportions in which capital, labor, and prices are combined The suggestion was made that by shifting the objective from innovation to the impact of creating a modern agriculture, part of the solution to the problems of regional disparities, maldistribution of income, and the creation of more employment will be found. The sociological and political repercussions would then be amenable to solution.

*Further, it was emphasized that much more even than economic dynamics will determine whether the innovational potential will be realized in Southeast Asia:*

1. *Political development* must go hand-in-hand with economic development. Political leadership must be evolved that will realize that the best way to accelerate growth is to continue the agricultural revolution, and that will have the capability to handle attendant logistical, economic, and social problems.

2. *Coordination and planning* that will a) reflect an awareness of the social forces of change and how economic factors mesh into social dynamics in a changing society, and that will b) develop the administrative capability to handle the wide variety of problems relating to market, management and extension.

3. *Research* on the impact of the green revolution on religion, tradition, on attitudes and behavior and social tensions in the society.

4. *An ideological climate* created that will be congenial to the needs and values of efficient farmers.

5. *The institutional infrastructure, complex bureaucracy, and high-quality personnel* developed.

6. *A broader participation of the rural population* in the national political process brought about, to close the gaps between farmer/laborers and the metropolitan elite.

7. *All aspects of agriculture* to be looked at, i.e., animal husbandry, fisheries, forestry products, etc. If these are what is needed, then the institutional machinery should be developed.

V

Nibondh Sasidhorn, *Developing the Agricultural Sector: A Role for the Social Science*

The central thesis of Dr. Nibondh's paper was his proposal that development programming be patterned after a *"solar system of development"--the establishment of a central project around which other related projects could be geared.* This central project would focus on the agricultural sector, while other sectors, such as education, commerce, and industry, would take a secondary role that would at the same time tie in with agricultural development.

The involvement of the social scientist in this agriculturally-oriented solar system would be in the creation of an effective government and administration and in the formulation and execution of policy.

It was generally agreed that the proposal for a solar system of development is a useful concept. The difficulty lies in the identification of this central project: people in different disciplines have different ideas. More important is the problem of how to induce the project and people in one area to work together. Another reservation was expressed on the grounds that supplemental projects would tend to be neglected, with the possibility of drastic consequences for the nation.

*In his discussion Dr. Mosher listed six contributions which the social sciences can make to development:* increase knowledge; to contribute to public policy, the training of professionals, managerial decisions, organizational and administrative efficiency, and operational research. Specifically the activities of social scientists can involve projections of demand for farm products, predictions of supply responses to prices, predictions of inhibiting factors to the short- and long-term spread of new technology, trends in income distribution, descriptions of social and attitudinal changes, studies in profitability of new technology.

The foregoing bear preponderantly on policy and managerial decisions; yet this is one of the neglected areas in social science. The requirements of research and development are so large that it is necessary for young professionals to concentrate their research more on problem-oriented areas, leaving the experienced professionals to undertake research not directly related to development.

*Other requirements for the contribution of social scientists to development programming were cited:*

1. Social scientists should devote more creativity to the physical technologies as a means of accomplishing goals. Social scientists should also be involved in depth in field operations, for the crucial challenge is in working effectively with technology.

2. Social scientists can identify the prerequisites for development and analyze the impact of development on the future of the society.

3. Social scientists can help to create systematic political parties and effective democracy.

4. Social scientists from different disciplines can supply information and expertise from the different disciplines.

5. Social scientists can help create a sense of mission in the public.

6. Social science research centers need to be developed to gather research findings on the social ills of the country.

7. The major output of social scientists it was stated, is not so much in their methodology or generalization but in their presentation of a reflected image of human life.

Dr. Selosoemardjan raised the important question of the role of social scientists in a politically unstable environment. Should they go along with whatever government is in power, or, if they are in conflict with government policies should they fight and risk the end of their own policies, or even their lives? It was suggested that this question alone could be the subject of another conference.

Discussion turned to the necessity of bringing the private sector into better harmony with government and international institutions. The concept that industrial development and agricultural development are unrelated is now being revised: no one sector is more important than, or separable from, the other. A strategy for development, whether a solar system or not, must pursue enlightened policies for the full utilization of the private sector.

Regarding the contribution which social scientists can make to the evolution and operations of the private sector, Mr. Charles Dennison offered the following proposal: that social scientists, perhaps from this conference, connect with the Pacific Basin Economic Cooperation Council (PBECC). This organization is private sector, includes Japan, Australia, Canada, New Zealand and the U.S. to start, and addresses itself to how the private sector can play a more effective role in the economic development of Asian countries. The purpose of this connection would be first, to make the "analytical work" of the social scientist available to PBECC, if only to educate, and to make PBECC members aware of their potential role in the entire agricultural process itself. Second, it is believed that more coalition of private units would have the political power needed to help push through development programming.

*Specifically, Mr. Dennison's proposal involved a tri-partite process:*

1. That a small group from SEADAG meet with the steering group of PBECC at the next meeting in Kyoto. Certain items arising from the discussion of this conference might be included on the agenda.

2. That a coalition of private units should involve another group, the physical scientists (perhaps the Pacific Science Board of the Academy of Science).

3 That The Asia Society could act as coordinator in the United States

*Mr Dennison made a second proposal, the purpose of which would be to test the practicability of a systems engineering approach to development* This would involve a test project, under controlled conditions, in a selected region, that would bring in expertise from the academy of engineering in collaboration with the ADB and IRRI Such an approach has never been applied rationally through international institutions, said Mr Dennison, and he suggested that the initiative for such could be taken at this conference

VI

*Implications of the Conference for AID Programming*

Mr Johnson of EA/TECH, AID, stated that the ideas, interpretations and insights exchanged at this conference would be used for guidelines on how AID can provide more meaningful and effective assistance--assistance that will reflect the views and concepts of Asians. The following are key ideas issuing from the discussion to which AID indicated it would give its full attention:

1. *Economic policy actions:* more emphasis should be given to the market and demand side.

2. The *need of research and the search for the technological and scientific breakthrough as a systematically organized process.*

3 *Education and manpower:* the need to develop manpower strategies and projects, especially as related to agriculture and extension efforts.

4 *Crop diversification:* AID will utilize the ideas, suggestions, and pitfalls outlined at this conference.

5 More attention to the *role of infrastructure.*

*Other problem areas that need further study:*

1 *The potential role of women* in the social and economic structures in developing countries is a critical once and needs further study

2 *Systems concepts:* the problems of high-yield rice have brought out the need of structuring agri-systems The question is, how?

3 Whether or not the impact of high-yield varieties is truly revolutionary, said Mr. Johnson, it is symbolic, and has generated *appeals for political and institutional support* beyond the IR-8 issue. The question is, how to capitalize on this interest and stimulate continuing political attention which will be matched by allocative support for technological innovation and development in the agricultural sector

One of the participants further recommended that funded AID projects be tried on a split-sample basis: to be tried in one area with a social scientist participating and in another area without a social scientist It was suggested that this would be one way of testing the input of a social scientists on projects

*Statements and Key Recommendations Concerning a Development Strategy in Southeast Asia:*

1. Southeast Asian nations need to *clarify their objectives* in the agricultural revolution. If the objective is to raise the overall standard of living, then this is where research has to be directed. Goals and policy will follow if the objectives are established.

2. *New models or theories are needed in the analysis of technological innovation and economic development* that are appropriate to Southeast Asia. What exist now are theories with varying degrees of Western bias.

3. *A systems approach to the solution of development problems* is a must in Southeast Asia. New dimensions in management are needed.

4. Southeast Asian countries and outside assistance must be directed toward creating a *market agriculture.*

5. *A regional area development approach* is necessary if economic growth is to be sustained.

6. *International agreements* are forthcoming on the stabilization of rice and wheat trade and prices.

7. *Diversification of crops* must be made feasible and profitable in Southeast Asia.

8. *Education* must be development-oriented but at the same time broad enough to produce leaders with political vision.

9. *Income distribution* is required to increase the purchasing power of the poor.

10. Greater effort must be made toward *population control.*

11. *Political leadership* must be evolved which is in tune with the changing requirements of development in Southeast Asia.

12. The development of an *institutional and human infrastructure* capable of handling problems created by the green revolution.

13. A broader participation of the *rural population* into national political dynamics must be brought about.

14. Government has the responsibility of evolving the *industrial sector* along with other sectors in the economy.

15. *Social science research* must be more problem-oriented.

16. To develop the systems approach for realizing the maximum benefits from the agricultural revolution in Southeast Asia, consideration should be given immediately to bring together representatives of the Southeast Asia Development Advisory Group, the Pacific Basin Economic Cooperation Council, and the Pacific Science Board (these three private sector organizations combining the social sciences, industry, and the national sciences).

The conference concluded with the following statement from General Netr:

What has impressed me here is the sincere and straightfoward approach to truth, with no national boundaries, of people dedicated to peace in the world. The area for discussion was properly chosen and The Asia Society should be congratulated. I am pleased that the conference covers such a wide range of subjects: whether the suggestions here are correct only time will tell. The point is: Many problems give us an awareness of the impact/changes that, whether we like it or not, we have to face soon. I personally view change as a healthy challenge to the growth of a people. But we need help to be more careful in the plans undertaken to meet these problems.

Report prepared
by Avery Russell