

# Development Communication in Indonesia: Programmes, Methods, and Approaches

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## ABSTRACT

*Development communication is an art and science that has evolved through various communication activities and programs conducted over the past twenty years especially in the field of agricultural communication. Experiences in Indonesia are providing certain insights into the issue of communication in the agricultural development that can be made effective. In Indonesia, there is a variety of communication resources being marshalled to help agriculture develop. Farmer groups and Contact-Farmers are the essential social institutions within the agricultural communication framework in Indonesia. Several methodologies or approaches related to this foundation which have been implemented are: Farmer's Agricultural and Rural Training Center (FAR-TC); Integrated Pest Management (IPM); Income Generating Project for Marginal Farmers and Landless (IGP); Decentralized Agricultural and Forestry Extension Project (DAFEP); and The Training and Visit System (T&V).*

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## Introduction

Indonesia is an archipelago comprised of approximately 17,508 islands, of which only about 6,000 are inhabited. It includes five main islands i.e., Sumatra, Kalimantan, Sulawesi, Irian Jaya, and Java in which 70 % of the population resides. Indonesia constitutes the fourth most populated country in the world with a total population estimated to be 201,3 million. The total land area is about 1,92 millions sq. km stretching for 5,150 km between the Australia and Asian Continental mainland and dividing the Pacific and Indian Oceans at the Equator.

The total land area of Indonesia is about 181 million ha of which 120 million ha is forest. The cropped area consists of 22 million ha, with 6 million ha devoted to perennial crops, 7 million ha to wetland crops, and 9 million ha to dry land crops. In Java islands, the majority of the farmers operate small-size farms averaging less than 0.5 ha. In the other islands, the average farm size is approxi-

mately 1-3 ha.

In Indonesia's stage of development, agriculture has to make a number of major and interrelated contributions to the process of socio-economic development. Firstly and foremost, it has to contribute to the GDP and provide food for a growing population and raw materials for the industrial sector. Secondly, it must provide productive employment opportunities and income for the huge numbers of people residing in the rural areas. Thirdly, it must play a crucial role in alleviating poverty and malnutrition through a structure and pattern of production that allows small farmers and land-less agricultural workers to share in the benefits of agricultural growth. Finally, agriculture must contribute to improving the balance of payments situation through increased exports. The agricultural sectors are still the mainstay and the largest sector in Indonesia's economy, employing 35,5 million people or more than 50 percent of the total labor force in 1990. During 1995 it contributed 17.2

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percent of the GDP.

The agricultural sector which includes livestock and fisheries, has a dualistic structure, in which 42 million ha are cultivated by 24 million small-holders, while 22 million ha is comprised of large agricultural operations managed by 2,000 estates. Smallholders dominate production in all subsistence and cash crops except for oil palm and tea. Yields of rice vary considerably. Paddy (un-husked rice) yields of 4-7 tons could be expected from many fields. Average dry-land rice yields have been consistently recorded at less than half those of wetland rice.

A variety of smallholders export crops such as rubber, coffee, and coconuts are also produced. Livestock typically is raised in combination with food crops and secondary crops, resulting in a mixed farming system. The fishery sub-sector in Indonesia has two distinct types: marine and inland fisheries. Altogether Indonesia has 61,000 km of coastline of which 5.8 million sq. km of territorial waters have been declared within the Exclusive Economic Zone (EEZ). The sustainable total catch was estimated at 2,655,000 tons in 1992.

During the last five years, agricultural extension in Indonesia has undergone substantial changes with regard to its basic operational organization and policy. These changes have been pushed by the increasing demand for establishing a more effective agricultural extension system that can keep abreast with the fast growing agricultural development. The following are some of the significant changes:

1. Decentralization of extension operational authority from the central to the local (district) government, including the authority of the administration of extension workers.
2. Shifting of approach from commodity-based to integrated, agribusiness-oriented extension system.
3. Establishment of a structured research-extension linkage at the local level.

In spite of these organizational changes, the mandate of agricultural extension remains the same, that is to promote a non-formal education for farmers (including fishermen) and their families. The

mission is to assist farmers to help themselves in solving their problems by facilitating their learning and action through the provision of technical information, access to development facilities, and legal support for farming and business activities.

The agricultural extension in Indonesia is an entirely government-administered system, although some private extension works are in operation. Their existence is very limited and has never considered as a part of the national agricultural extension system. The government sets up and controls the extension organization and provides all facilities, funds, manpower and logistic support needed.

### **Agricultural Extension in Indonesia: Approaches, Policy, and Programs**

Extension is a general term that has come to mean all rural development work. It is an out-of-school system of education in which adults and young people learn by doing. Extension is also defined as an organized service designed to improve the living conditions of farmers, homemakers and other rural people by teaching them to adopt better and improved methods and practices in their farming pursuits, homemaking practices, and for better community living.

Extension starts where people are and with what they have. The end of all the efforts of extension is to help the farm family attain a better living and become more active and productive members of the community.

Extension is as broad and varied in its meaning as the interests of the people it serves are. It is an educational program for the people, based on their needs and problems on self-help basis. Where aid in solving rural problems is available from other agencies, extension provides information and guidance in the use of such assistance.

The *approach* is the essence of an agricultural extension system. Each system also has an organizational structure; it has its leadership; has resources of personnel, equipment's, and facilities; it has a program with goals and objectives as well as methods and techniques for implementa-

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tion; and it has linkages with other organizations and various publics as well as its particular clientele.

The approach is the style of action within a system. The approach embodies the philosophy of the system. It is like the beat of a drummer, which sets the pace for all of the activity of the system. But it is not merely one of the components of the system. Rather, it informs, stimulates, and guides such aspects of the system as its structure, its leadership, its program, its resources, and its linkages.

Many extension approaches have been implemented around the world, including Indonesia i.e.:

1. *The general agricultural extension approach.* The basic assumption with these approaches is that technology and information are available which farmers, are not using, and if knowledge of these could be communicated to farmers, farm practices would be improved. The purpose is to help farmers increase their production. Typically, central governments have a ministry of agriculture with a variety of divisions.
2. *The commodity specialized approach.* The assumption here is that the way to increase productivity and production of a particular commodity is to group all functions relating to it under one administration, including extension along with research, input supply, output marketing, and often prices. Extension program planning is controlled by a commodity organization, and implementation is through field staff of that organization.
3. *The training and visit approach.* The basic assumptions of this approach are that, under the Ministry of Agriculture extension services, the extension workers are poorly trained, lacking supervision and logistic support, and they do not visit and have contact with farmers. Further, it is assumed that subject matter specialists are poorly trained and not providing a link with research and training functions. The purpose is to induce farmers to increase production of specified crops.
4. *The agricultural extension participatory approach.* Here the assumption is that farming people have much wisdom regarding production of food from their land, but their levels of living could be improved by learning more of what is known outside. It further assumes that effective extension cannot be achieved without the active participation of the farmers themselves, as well as research and related services; that there is a reinforcing effect in group learning and group action; and that extension efficiency is gained by focusing on important points based on expressed needs of farmers and by reaching more small farmers through their groups/organizations instead of through individualized approaches. The purpose is to increase production and consumption and enhance the quality of life of rural people. Program planning is controlled locally, often by such groups as farmer's associations.
5. *The project approach.* This approach assumes that a rapid agricultural and rural development is necessary and that the large government bureaucracy in the regular Ministry of Agriculture Extension Service is not likely to have a significant impact upon either agricultural production or rural people within an appropriate time frame, and that better results can be achieved by taking a project approach in a particular location, during a specified time period, with large infusions of outside resources. The purpose is often to demonstrate what can be done in a few years. Central government controls program planning, often with considerable input from an international development agency.
6. *The farming systems development approach.* The assumption with this approach is that technology, which fits the needs of farmers, particularly small farmers, is not available, and needs to be generated locally. The purpose is to provide extension personnel (and through them farm people), with research results tailored to meet the needs and interests of local farming system conditions.
7. *The cost sharing approach.* The assumption here is that the program is more likely to fit

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local situations, and personnel are more likely to serve local people's interests if part of the cost of agricultural extension is paid locally. It also assumes that farm people are too poor to pay the whole cost, so central and regional governments typically provide most of it. The various levels paying the costs, but must be responsive to local interests in order to maintain "cooperative" financial arrangements share control of program planning.

8. *The educational institution approach.* The assumption is that faculties or colleges of agriculture have technical knowledge which is relevant and useful to farm people. The purpose is to help those people learn about scientific agriculture. Program planning tends to be controlled by those who determine the curriculum of the education institution. A college or university through non-formal instruction groups, with individuals, and with other methods and techniques, sometimes conducts implementation with agricultural extension personnel of another agency as the main audience.

In Indonesia, the new policy of decentralization has delegated the operational authority of agricultural extension to the district administration. The mayor of the district government assumes the responsibility of coordinating and controlling the agricultural extension programs, which are carried out by a district extension institution called Balai Informasi dan Penyuluhan Pertanian (BIPP) or "District Agricultural Information and Extension Center (DAIEC)". Field activities of the extension program are operated through the Balai Penyuluhan Pertanian (BPP) or "Rural Extension Centers" (REC's) in the villages which are administered by DAIEC. In 1998, there were administered about 298 DAIEC's, and 3,169 REC's whereas in operation throughout the country.

There are 37,288 Extension Workers are all currently employed to serve the farmers and 3,000 among of them are categorized as Subject Matter Specialists (SMS's or PPS). The FEW's (PPL) are stationed at the REC's and supported by four district agricultural services (food crops, livestock,

estate crops and fisheries) in both legal and technical matters. The SMS's are employed at the provincial agricultural services and at the DAIEC's, to backstop the research related field activities of the FEW's. The ratio of FEW's to farm families is approximately 1:800 for Java, and 1:1,200 for other islands. Female FEW's constitute less than 15 percent of all FEW's.

While the Subject Matter Specialist (SMS's) are university graduated, mostly of agricultural discipline, the Field Extension Workers (FEW's) are mainly agricultural vocational high-school certificate or post secondary diploma holders. Rapid agricultural development and farmer's progress has necessitated the government to improve the formal educational level of the extension workers. Through the recently established Academy of Agricultural Extension, the FEW's are trained to reach a three-year post-secondary diploma. In addition, further academic education up to the doctorate degree is selectively available for prospective candidates.

In Indonesia, the basic existing institutional framework and organization of the state-supported agricultural system comprises central level agencies (Ministry of Agriculture or MOA, and Ministry of Home Affairs or MOHA), regional offices of central agencies, and regional and local agencies set at provincial, district, sub-district and village levels.

The key central agencies of MOA and MOHA have policy formulation, technical guidance, and monitoring functions relating to agricultural extension. Within the MOA, the Agency for Agricultural Education and Training (AAET) oversees training of agricultural staff; the Agricultural for Agricultural Research and Development (AARD) conducts research and supervises the new regional technology assessment centers; the Directorate Generals provides technical guidance by sub-sectors; and the BIMAS organization supports food crop intensive guidance strategies.

Since the issuance of Public Law No. 5 of 1974 regarding Basic Principles of Regional Administration, a basic tenet of Indonesian State administrative policy has been to support the goal of

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greater regional autonomy. This is strengthened by the enactment of Law No. 22 of 1999 regarding autonomy government and Law No. 25 of 1999 on financial arrangement between central and local government. In actual practice, implementing the goal of regional autonomy has been slow.

The latest development in agricultural extension system is the decision of the Minister of Agriculture (MOA) and the Minister of Home Affairs (MOHA) to sign a joint decree on April 1996 concerning Guidelines on Agricultural Extension Management at national, provincial, and district levels. At district level, the Head of District Local Government (Bupati) has to establish a District Agricultural Information and Extension Center (BIPP) as an agency directly under the Bupati. Based on this joint decree, all extension workers and BPPs administered under four sub sectoral Dinases have to be transferred to BIPP. This new institution is in charge of overall management of agricultural extension resources, development, and recurrent activities at district level. The establishment of BIPP provides required infrastructures for implementation of decentralized agricultural extension programmes.

In 11 September 1996, a joint circulation letter of the MOA and MOHA on Operational Guidelines of Agricultural Extension Management was released concerning the operational procedures of extension program planning at national, provincial, district and subdistrict levels, the structure and management of BIPP and BPP including the administration of extension workers. The extension operation at BPP level would be carried out by team consisting of extension workers with different types of expertise as needed by the farming system in subdistricts. Each extension workers would serve the farmers residing within a BPP working area.

One of the major problems facing the extension workers involved in rural development programs is the formulation, reformulation, or acceptance of existing objectives. To solve this problem, the extension workers must help define the directions, in which they want and need to go and then provide assistance to them in traveling in

those direction. This is the essence of extension work.

In extension it is important to consider what rural people feel they need and what professional extension workers think they ought to have. In an ideal situation there should be perfect agreement between the two. In practice, however, it is not safe to let either group dominate the setting of objectives. What people want may not be what they need most. What extension workers think people need may not be what they want.

Experienced extension workers know that the most successful programs are those built on actual situations. They try to find the wants, needs, and problems of the rural people, of a family, or community, before going to work. These are the working objectives without which effective extension teaching cannot take place.

An extension organization can try to achieve changes in a direction, which it considers to be desirable for the farmers, for example in better control of plant diseases. It can also help farmers to achieve their own goals more successfully, for example in choosing between a farming system with high average income and high risk, and a system with low income and low risk. Choosing their own goals should be preferred when values play an important role in decision-making.

Agricultural extension is an important instrument for stimulating agricultural development, but it is a decision based on value judgements on which form of development is desirable. Extension is an effective instrument only when combined with others, such as research, provision of inputs and credit and marketing. It can teach farmers how to produce crops and animals in the most profitable way, as well as how to organize themselves in co-operatives and other farmer organization.

Provision of a linkage between farmers' problems and agricultural research institutes is a major task of an agricultural extension organization, which requires two-way communication. Farmers' experience is another important source of extension information.

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## Farmer Group Approach

As a result of the large number of farm families (about 27 million) and the limited number of extension workers, it is impossible to approach farmers on individual basis. Group approach is therefore used as basic extension strategy. This approach is effective because the Indonesian community is very group-oriented in many aspects. Community actions are very much determined by group decisions.

In 1998 there are administrated 354,881 Farmer Groups (Kelompok Tani), and the total of members of those groups are 11,797,644 farmers. They are now in existence throughout the country. Those Farmer Groups classified into: (1) the starting farmer's group (Pemula) 123,793 groups; (2) the first developing farmer's group (Lanjut) 119,971 groups; (3) the second developing group (Madya) 73,814 groups; and (4) the developed (established) group (Utama) 23,016 groups. The rest are still new and non-certificate Farmer Groups.

The Farmer Group, which is initiated and formed by the farmers, usually consists of 20 to 50 members and led by a chairman – referred to as Contact Farmer (Kontak Tani) – who is elected by and from among the group members. A Contact-Farmer is usually a successful, progressive and better-educated member of the group who is viewed as a partner of the extension worker and is informally considered as a voluntary change agent. As a community leader, the Contact-Farmer (Kontak-Tani) plays an important role in mobilizing the group members to implement extension activities and to integrate them in rural community development programmes.

Farmer groups and Contact-Farmers are the essential social institutions within the agricultural extension framework in Indonesia. They are considered to be the foundation of agricultural extension activities. For this reason I should like to expose and elaborate several methodologies or approaches related to this foundation, which have already been implemented in Indonesia i.e.: (1) Pusat Pelatihan Pertanian dan Pedesaan Swadaya (P4S) or Farmer's Agricultural and Rural Training

Center (FAR-TC); (2) Sekolah Lapang Pengendalian Hama Terpadu (SLPHT) or Integrated Pest Management (IPM); (3) Pembinaan Peningkatan Pendapatan Petani-Nelayan Kecil (P4K) or Income Generating Project for Marginal Farmers and Landless (IGP); (4) Desentralisasi Penyuluhan Pertanian dan Kehutanan (DPPK) or Decentralized Agricultural and Forestry Extension Project (DAFEP); and (5) Latihan dan Kunjungan (LAKU) or Training and Visit System (T&V).

### 1. Farmer's Agricultural and Rural Training Center (FAR-TC)

Like in other countries, in Indonesia farmers are now more educated than they were few decades ago. This change has among others been the result of intensive agricultural extension education and training and increasing availability of communication and information facilities in the rural area. It has also been accelerated by the growing influx of better-educated young farmers (incl. those inheriting parent's farms) and retired civil servants / military-officers into farming business.

The increasing number of educated farmers brings in new agricultural leadership in the rural areas, particularly that in the management of agribusiness and adoption of technological innovation. Many of these educated farmers who are successful in their farm-business are looked upon by other farmers and regarded as sources of reference and information to which farmers ask for help or advice.

Apprenticeship as a training method is an effective method of stimulating and accelerating absorption of technology among farmers and fishermen. Through apprenticeship programmes, the capability of farmers-fishermen in managing farm business and developing farming organizations is transferred to other farmers and fishermen.

Leaders of farmers or Key Farmers initiated the idea to develop training and apprenticeship by and for farmers-fishermen in a national conference in National Farm Week (PENAS) V, in Lampung, 1982. This idea was afterwards developed and discussed again on various occasions

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when National Contact Farmer leaders then started pioneering apprenticeship program on their respective farms.

In further development, Contact Farmer's progress in Indonesia has also witnessed the growing initiatives among educated farmers to help other farmers achieving better competencies and capacities in farm-business through farmer-self-organized extension and training activities. The operational modes are ranging from a simple individual apprenticeship to structured training courses for groups of farmers. Some initiators have even built training facilities to accommodate boarding, in-door training, and field and laboratory works for the trainees. These farmer-owned facilities are known as "Pusat Pelatihan Pertanian dan Pedesaan Swadaya (P-4S)" or "Farmer's Agricultural and Rural Training Centers (FAR-TC's)". According to the latest report of the Agency for Agricultural Education and Training (AAET) of the Ministry of Agriculture, Indonesia, 62 FAR-TC's are currently in existence throughout the country. 30% of those centers have adequate training facilities.

Besides dealing with training activities, a number of FAR-TC's are pioneering to work on technological development and assessment. A FAR-TC in Nganjuk, East Java, for example, has produced different kinds of organic-fertilizer using microbial-inoculate techniques (Bokashi); tested them on its farm and sold the proven-effective products to farmers. Another FAR-TC in Manado, North Sulawesi, has even produced its own microbial-inoculate formula.

The increasing interest for technological research and development does not occur only in the FAR-TC's but also among individual farmers. It was reported that some Key Farmers in West Java have developed bio-pesticides using local organic materials to be applied in their farms, during the shortage of officially-recommended pesticides. A Key Farmer in Central Java was reported to have successfully produced a high-yielding variety of rice which called "Mentik Wangi", that has a good taste quality, through a cross-breeding technique.

## 2. Integrated Pest Management (IPM)

Since 1989, another methodology has been introduced through a FAO-USAID assisted project namely Integrated Pest Management (IPM). The commodity covered by this project started with rice, then expanded to palawija and vegetables. The extension system applied by this project is a bottom-up, participatory, and farmer-centered approach. The farmers participating in this project considered this extension system to be particularly valuable and very effective. The World Bank has been involved in this project since 1993. The number of provinces covered by the project was 12 provinces.

The National IPM Program is revitalizing the extension system and the existing network of farmer groups by organizing and running IPM Farmers' Field Schools. By design a "school without walls", these Farmers' Field Schools meet weekly for a full 12 week crop seasons, from transplant to harvest. Each Field School has a 1000 sq. Learning Field containing a farmer-run comparative study of rice field IPM.

Each week farmers practice agro-ecosystem analysis which includes plant health, water management, weather, weed density, disease surveillance, plus observation and collection of insect pests and beneficial. Farmers interpret through direct experience, they utilize agro-ecosystem analysis to make field management decisions and develop a vision of balanced ecological processes. Facilitators allow the farmers to become the active experts, assisting them to bring forth and analyze their own experience. During the process farmers:

1. Produce their own learning materials including insect collections, "insect zoos", field trials, posters, and workbooks.
2. Create and use analytical tools from the weekly agro-ecosystem analysis chart made with newsprint and crayons and live samples to SWOT analysis frameworks for developing follow-up plans.
3. Solve problems and make decisions: IPM participants learn to manage their own programs and set-up and run ever more complex learn-

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ing activities and experiments.

Since 1990, over 20,000 Farmers' Field Schools have been conducted. In addition to rice, Field Schools are now tackling soybean, cabbage, potatoes, and shallots. The IPM Farmers Field School model has also been adopted for a wide range of agriculture extension activities, and exported to countries across Asia.

The success of the IPM Farmers Field School has sparked genuine political support and gratifying financial buy-ins from local governments. Village heads, District Administrators, and Provincial Governor have publicly endorsed IPM Field Schools as the most effective village agricultural training program ever experienced; and they have backed this support with funding from local government coffers.

It is reported that the Indonesian National IPM Program provides farmers with broad-based training aimed at developing better farmers and more sustainable farming systems. As part of this effort, the Habitat Studies have contributed to a conceptual framework that is at the same time more truthful and more productive than its pesticide-based predecessors. Farmers, extension agents, and researchers – together in the field – are observing rice agro-ecosystems in which natural enemy populations are being boosted to high levels during the first half of the season by feeding on “other” non-pest beneficial insects. They explore the idea that non-rice habitat is important for the long-term survival of natural enemies, and that large-scale patterns across hundreds of hectares – such as the cumulative behavior of neighbors spraying pesticides, or the degree of synchrony of planting times of hundreds or thousands of nearby farmers – will have direct consequences for the local process in each farmer's field.

But more than this, tens of thousands of farmers across Indonesia are developing the understanding that they are both capable of, and responsible for observing, experimenting, evaluating, communicating, organizing and acting. These are the elements of empowerment, and this is the type of program that will serve the small-scale farmers of Indonesia and all rice-producing countries,

far beyond the relatively simple issues of pests and pesticides.

### **3. Income Generating Project for Marginal Farmers and Landless (IGP)**

The first phase of Income Generating Project (IGP) or “Pembinaan Peningkatan Pendapatan Petani-Nelayan Kecil (P4K)” was implemented during 1979 to 1986 forming more than 3,000 Small Farmer Group (SFGs) in 11 provinces. The end of project increased the average real income of small farmers increased by approximately 40%. There were also indications that improvement had occurred in housing, health care, sanitation and family planning methods. People's participation, in the real sense of the term, was practiced that the Farmer's Groups were the decision-makers.

The present project is the second phase (Phase II) of the IGP, known as P4K (Income Generating Project for Marginal Farmers and Landless) and targets over seven years 30,000 SFGs or 1.5 million people in 12 provinces. This project is in line with the Indonesian Government's development strategy of poverty eradication through improving living conditions for the rural population and supporting initiatives which foster equity, development and employment creation.

Poverty eradication programmes of materials assistance have often brought only temporary relief. For sustainability and eradication of poverty, the real lasting emphasis must be human development, where every parent has the confidence, skills and knowledge to feed their families and live above the poverty line. P4K invests in people to enlarge their skills, widen their choices, improve their productivity and give them space without encroaching on others or future generations. P4K Human development strategy is to develop, through participatory guidance, the basic human assets of confidence, organizational skills and knowledge.

The target participants of P4K are (1) Farmers-Fishermen whose family income is below the poverty line which is the equivalent of 320 kg rice per capita per year; (2) Target participants are Small Farmers (the Landless, Farm Laborers, Sharecrop-



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pers, Marginal Farmers, small Fishermen and the Project has adopted a total family approach which includes all members of the small farmers family.

The goal of P4K guidance are as follows: (1) To raise the income of that section of the rural community whose income is below the poverty level by initiating a range of income-generating activities. (2) To develop the organizational capabilities of the intended beneficiaries so that they may improve their access to credit and extension services through small farmer groups and initiate activities leading to improved levels of living for all members of their families.

There are 7 Basic principles in implementing P4K, i.e.:

1. *Group Approach.* All guidance should use a group approach that empowers small farmers and fishermen. Groups are formed from, by and for small farmers not for the field staff or guidance institutions.
2. *Homogeneity.* Group members must know each other, trust each other and have common objectives that will be the basis for effective and harmonious cooperation.
3. *Emerging Leadership.* Give every opportunity for small farmers to develop leaders amongst themselves.
4. *Partnership.* Small farmers as partners take decision for their own development. In all decisions effecting their future, small farmers are the real decision-makers.
5. *Self-Reliance.* Guidance and support given must increase abilities for private enterprise and self-reliance.
6. *Learning By Doing.* Small farmer families are guided to learn from practical application their own experience and discoveries.
7. *Total Family Approach.* Guidance should be given not only to the head of the household but also to husband of wife and children so that all family members receive guidance.

Up to December 1999, it was reported that the total of Self Help Groups (SHGs) are 44,406 SHGs (Present existing, established since P4K II). Total credit received by the groups is 61,545,445,000. Rupiahs. The completed data and other information could be seen in the Annex 2a, 2b, 2c, and 2d.

It is reported too, that the effects of the P4K are as follows:

1. *Productivity.* P4K has had production effects by increasing the volume of production (in 82 % of the groups), improving the quality of production (in 65% of the groups) and in changing the relations of production, whereby in many cases the beneficiaries have graduated from wage-employment to self-employment.
2. *Employment.* P4K has had employment effects by increasing the working hours of group members in 66% of the groups, with an average increase of 27 hours per week per household.
3. *Social & Community.* The project has had strong social and community effects through the improvement of the self-confidence of the beneficiaries and their social standing in the village.
4. *Women.* The project has had an impact on women with 35% of all groups being women's groups (as against the SAR target of 20% of all groups), while 40% of all beneficiaries are women. Reflecting regional cultural differences relating to women's traditional activities, the percentage of women's groups ranges from a low of 18% in West Java and 21% on Bali and a high of 79% on NTB, the project's most successful province in almost every respect. The principle women's income generating activity as well as main loan usage in women's groups is petty trading (38%).
5. *Incomes.* P4K has had income effects through an income increase of 41%-54%. Further, household incomes were found to increase from 33% after the first loans, to 46% after the third loan. These income gains are likely to increase with time. Moreover, there are further direct (cumulative) income gains from the inevitable multiplier effects arising from reinvestments as well as from additional consumption.
6. *Institutional.* P4K has had institutional effects by training extension workers in working with the poor and in demonstrating that the extension agency, with its 33,000 field Field Extension

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sion Workers, can provide an effective instrument for poverty alleviation. Likewise, it has proved that the banking system can lend the poor, without collateral, with low arrears, with adequate profit to ensure sustainability. This could also have a profound institutional effect, at a time when the Government is actively searching for a methodology and institutional means for a poverty program for application over the whole country.

7. *Environment.* The project has no known negative environment impact.

#### **4. Decentralized Agricultural and Forestry Extension Project (DAFEP)**

The proposed Decentralized Agricultural and Forestry Extension Project (DAFEP) has activities planned for the Districts of Kupang and TTS in NTT as well as in Kendari and Kolaka in Southeast Sulawesi, Maros and Gowa in South Sulawesi, Simalungun and Labuhan Batu in North Sumatra, Kulon Progo and Bantul in Yogyakarta, Magelang and Banyumas in Central Java, Bolaang Mongondow and Minahasa in North Sulawesi, Lombok Barat and Bima in West Nusa Tenggara, Tanah Laut and Kotabaru in South Kalimantan, and Pidie and West Aceh in Aceh Province. There are three main components in DAFEP: (1) enhancement of farmer's capacity to participate in and to lead extension activities; (2) strengthening the district extension system; (3) provision of central extension policy and project management support.

One of the most strengths of DAFEP is that it has no "package" to implement. It is specifically targeted to developing process whereby farmers actively participate in the planning, implementation, and evaluation of extension activities in their villages. The means to this goal include training of both farmers and extension workers (as well as managers and support staff), public-private sectors extension partnership, organization and management reform which are a part of a GOI commitment to decentralization (in which the Bupati coordinates and manages all extension activities at district level), and promoting dissemination and

exchange of information and technology.

DAFEP will support the poverty alleviation program of the government by focusing on rural areas located off-Java, specifically in the eastern islands, where there is high incidence of poverty and where the majority of people live in highly dispersed and marginal areas with poor quality soils and/or insufficient water. There is potential for social unrest in these areas because of the sharp increases in the prices of food and production inputs, among other factors. DAFEP will provide extension support to development projects in these areas, such as those proposed in the Kecamatan Development Project (KDP) which is focused on the needs of the poorest villages (3,800 sub-districts and 65,000 villages). KDP and other development project could then utilize participatory extension approaches, procedures, tools, and technologies, which would be designed and tested through DAFEP, later.

The most basic change in extension is the change from centralized to the decentralized decision making in managing and implementing extension program as a consequence of decentralized extension concept. Top-down and "farmer-last" approaches will be redirected toward a bottom-up and "farmer-first" approach. An extension model, which emphasized the transfer of technology from research center to farmer as technology users, will be redesigned to develop human resources and promote more interaction between research, extension, and farming. At the following table, summarized the elements of improvement in agricultural and forestry extension systems, which will be promoted through a decentralized extension project.

#### **5. Training and Visit (T&V)**

In the 1980s agricultural extension system in Indonesia was dominated by the Training and Visit (T&V) methodology introduced by the World Bank through the National Food Crops Extension Project (NFCEP) which was implemented in three phases.

In the first phase, the project covered only food crops in 13 provinces. The second phase was implemented through a project called the National

Agricultural Extension Project (NAEP II/1980-1985) which expanded the implementation of the T&V system to an additional 13 provinces covering not only food crops, but also small holder estate crops, livestock, and inland fisheries. The third phase

(NAEP III/ 1989-1992) continued strengthen extension services based on an integrated T&V system for all sub-sectors in all provinces.

The current implementation of Training and Visit (T&V) System in agricultural extension was

not designed to provide the needs of the farmers. Instead, it was designed to manage the performance of extension personnel. Many farmers are dissatisfied with the current extension system because their needs for solving their farm problems were not met by the extension personnel. Alternative approaches and methodologies are needed to increase the effectiveness of agricultural extension.

Since 1995 the T&V model has been reformulated to the new methodology Field Extension Team (FET) Approach. This method aims at making extension more cost effective, demand-driven, sustainable, professional and more accountable to clients. In FET approach, extension program would be based on farmers' actual needs and priorities. Highly competent extension workers serve farmers, and farmers determine schedules and duration of meeting. In later stage, farmers would determine the selection of individual extension worker to facilitate group learning activities or to advice on specific problem solving.

Extension workers in a subdistrict constitute a subdistrict level field extension team (FET). FET will be divided into subteams, each

Table 1  
Improvement Elements in DAFEP  
(New Paradigm of Agricultural Extension)

ELEMENTS	EXISTING EXTENSION	FUTURE EXTENSION
Decision making	Centralized	Decentralized
Approach	<input type="checkbox"/> Top-down <input type="checkbox"/> Farmer-last	<input type="checkbox"/> Bottom-up <input type="checkbox"/> Farmer-first
Extension model	<input type="checkbox"/> Tech. Transfer <input type="checkbox"/> Linear	<input type="checkbox"/> Farmer-led <input type="checkbox"/> Interactive
Objective	<input type="checkbox"/> Deliver message <input type="checkbox"/> Technology adoption	<input type="checkbox"/> Develop human resources <input type="checkbox"/> Empowering farmers
Strategy	General	<input type="checkbox"/> Local resources social, culture, gender-oriented
Source of innovation	Research Center	<input type="checkbox"/> Farmer <input type="checkbox"/> Private sector <input type="checkbox"/> Education institution <input type="checkbox"/> Research Center
Role of extension workers	Teaching	Facilitating
Role of farmers	Receiver & user	Active collaborator
Funding	Government / central	<input type="checkbox"/> Partnership a. Local government b. Private sector: - Farmers - NGO - Firms - University c. Central government/subsidy
Extension program	Sub sectoral-oriented	Integrated & farmer oriented
Extension content	Technology package, recommendation, message	Principles, methods, information
Learning method	Lecture, demonstrations	Learning through discovery
Learning aid	Prepared by trainer / extension worker	Prepared by farmer

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consists of 2-3 PPL, PKL, PHT or other field level technicians. The number of subteam depend on the major farming system and development program in a subdistrict which will also be the basis for developing specialized competency of the sub teams. A subteam in basically a semi multi disciplinary team within a farming system.

Each member of subteam may possess specialized skill which differ from the other but is still within the major area of competency. The number of extension workers in a subteam depends on the number of farmers requiring assistance in a subdistrict which is correlated to agro ecological characteristics of the subdistrict and market potential of commodities efficiently produced in the subdistrict. Each subteam will visit farmer and facilitate training, workshop and field studies according to expressed needs incorporated into sub-district level extension programs.

Based on the result of PRA and Extension Human Resources Study, the farmer's needs various improved extension services in a subdistrict are identified. Identification of major areas of specialized extension service and the member of farmers requiring service in each area are the basis for forming extension subteam within a FET. To form more than one subteam in a subdistrict a minimum number of field extension workers has to be met. A subdistrict with less than three extension workers but has to provide more than two types of farming system development or agricultural development programs, needs additional extension workers through transfer of extension workers from subdistricts with excessive number of extension workers. The existing extension workers in a sub-district will be divided into subteams taking into consideration individual experience, education and training background and interest. Training plan to develop their competencies will be prepared and implemented to meet the required level and area of competencies.

This FET is operationally as follows:

1. Each member of subteams will attend and participate in village level PRA and farmer group planning exercises. He/she will take note

farmer group plans which are relevant to area of specialization of his /her subteam.

2. He/she will also attend village level planning and consult with farmer leaders/trainers on program related to area of specialization of his/her subteam.
3. In preparation of subdistrict level integrated extension program, he/she will listen to farmer's representatives on their needs for extension and participate actively to incorporate farmers' need related to his/her area of specialization into integration extension programs.
4. Based on the agreed, participatory prepared extension program, each subteam prepares draft implementation plan containing extension topics, schedule, extension methods and techniques to apply, and operational cost required.
5. The draft implementation plan and schedule and methods to use are discussed with the farmer groups requiring information skill and knowledge to improve their farming practices. The results of discussion with farmer group will be the basis for revising implementation plan and agreement between a farmer group and FET for one season.
6. In general, weekly schedule of activities of a subteam consist of two days for scheduled activities with farmer group; two days for unscheduled activities with farmer group; one day for preparing training and discussion materials, and one day for meeting at BPP or consultation of other subteams, dinas officers and officers of other support institutions.
7. FET would be technically backstopped by area of expertise (AOE) team at district level.

Monitoring and evaluation of performance of extension subteams, either on individual basis or as a team will be carried out by coordinator of extension workers, by members of subteam themselves, and by farmers. Monitoring would focus on quality of training learning process and evaluation would focus on the improved productivity and farmers' satisfaction. **M**

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