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SOCIAL SOUNDNESS SURVEY

THE CITANDUY RIVER BASIN DEVELOPMENT PROJECT

INDONESIA

497-245

Phase Two Report PROG. REP.

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INTRODUCTION

The Citanduy River Basin has been divided into four subproject areas for development; the social soundness survey covers one, the area included in the Lower Citanduy/Ciseel River System subproject. It is an area that has approximately 93,000 hectares of land that varies from flat marsh/swampland to slightly sloping farmland. It is, by and large, a rice growing area; at least that is the crop for which the irrigation systems are being planned, so this survey used rice land as the primary guide in selecting study areas.

Phase One study was made with insufficient background material from which project study areas could be selected. Required data such as farm size, tenure status, extent and influence of water users' associations, and concentrations of group programs of the Agricultural Extension Service, the main public agency charged with instructional activities in agriculture, were not known. Benefiting from the first period of field work when some of the foregoing details were uncovered, the design of the second effort at field work was purposely skewed toward those village units where preliminary information indicated could be found active water users' associations and farmers in the differing tenuarial groups.

The following were the sample areas selected for study: within Kabupaten Ciamis of the Province of West Java, two Kecamatans were taken: Cisaga and Banjar. In Kecamatan Cisago two Desa-units were in turn chosen: Cisagi I and Bangunharja. A sample of 28 farmers were interviewed in the Kampungs of Cisagi I, and 21 in the Kampungs of Bangunharja. From Banjar were chosen 3 Desa-units, Tg. Syukur, Paringlesan and Chimcuijan, and Langensari. From the first Desa's several kampungs a sample of 11 farmers was obtained; from the second there were 16, and from the third, 21. Two Kecamatans were picked within the Province of Central Java, Cimanggu and Majenong, and 18 and 11 farmers respectively were interviewed in their several kampungs or villages.

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Field work was done between the dates of 5 and 22 December, tabulations, analysis, and preparation of report, 23 December and 4 January. To meet the demands of protocol, which meant contact and authorization to conduct surveys at every political level: first, from the Governors of the Provinces, then from the Bupati or chief political officers in each Kabupaten, and from him to his counterpart, the Camat, in the Kecamatan, continuing down to the Kulu of the Desa-unit, and finally the Lurah in the kampung. It is at the kampung, village, level where peasants live, who make up the overwhelming majority -- 80 percent or more of the farmers -- and only larger farmers are found in the correspondingly larger villages or towns.

To get to the farmer in his kampung, as is obvious, is a tedious and time-consuming process. Unfortunately, he is taken for granted; he is not important in the political process to warrant more than the attention of the Lurah and his only partially literate farm assistant, carrying the title of Pamong Tani Desa (PTD) in West Java, and Ulu in Central Java. Therefore, only vague estimates can be obtained of the total number of "farmers" in a province, and nothing whatever of the actual peasant's socioeconomic situation.

Once political authorizations were obtained, then contacts also had to be made with officers of the Agricultural Extension Service, the chief development agency with which the survey would be concerned, at the same levels as the political, except in the case of the Desa-unit and the kampung. In the former, the AES representative who is professionally responsible to his superiors in the Ministry of Agriculture but comes under the administrative authority of the Kulu; and in the kampung the agricultural officer is not even a representative of the AES, only of the Lurah, from whom he receives his orders. Obtaining political authorization at these levels automatically assured agricultural. Considering the time that was available for field work, only a day and one-half could be allotted per village unit studied, with the half-day consumed in protocol and only one day for productive work, productive at least in the sense that it was the day farmer interviews could be conducted.

I would not argue unduly against the charge that rapport, so important in social surveys, may have been sacrificed by the shortness of the period allowed each village, but there was no other reasonable choice. Without lengthening the time allotted for the study the alternative would have been longer and fewer family and village contacts. That did not seem practical.

With interviews carried on in the village bale, public meeting hall, where farmers had been gathered to await our arrival, and with neighbor listening and often helping neighbor when questions appeared difficult to comprehend, succeeding respondents obtained a useful introduction into the purposes for which we were in their village and asking so many odd questions. Answers to many of them appeared obvious to them, I am sure, but until such mundane answers are gotten from enough farmers in these communities, the void of factual information that

now obtains will not be filled. Rapport was facilitated by this sort of group interview procedure, so that by the time of the third or fourth interview it seemed we were already discussing mutual problems of farming with long-time acquaintances. Questions could then be both more precise and they could be more easily and quickly responded to. Interviewing in the open, as it were, had the advantage also of allaying any fears that there might have been ulterior motives in the probing. The cordiality with which the interviewing always came to a halt and the warmness in the leave-taking would indicate that farmers were grateful that someone had taken the trouble to interview them, albeit through a questioning procedure that must still appear strange to them and to solicit their opinions in matters of village development.1/

Before moving into a description of what the interviews have yielded, it should be understood that no claim whatever is made concerning the representativeness of the village samples. I do believe, however, the efforts within the constraints of time limits to obtain reliability will enable them to serve as a better starting point for further study that should be undertaken before construction commitments are irrevocable, than was possible in this exploratory evaluation.

CHANGE AND DEVELOPMENT

As one comes down on Java's Highway 1 from the heights of the mountains that give the plateau of Bandung its setting and sees the ravages of injudicious cultivation on the steep slopes of the foothills, and then finally comes in sight of the plains through which the muddy Citanduy now meanders slowly toward the Indian Ocean, it is easy to see why flood control is the most pressing problem in that river's basin.

Flood control in that sort of setting is an undertaking that challenges the coordinated action of three forces, forces that often will run at cross purposes: the engineer's building of levees, dikes and catchment basins; promulgation and enforcement of governmental regulations in the interests of the public welfare; and the changing of farmers' attitudes and methods of cultivation that will lead to a more rational use of land, while at the same time, one that will provide them with a better level of living than they have put up with in the past.

Irrigation, so that water will be available for agriculture the year round, instead of having that resource in more than copious quantities during the rainy season, and then have the same ground parched and baked hard during the dry, is also a need in the basin. However, while privation from prolonged drought can lead to as severe human misery as can floods, the latter are less predictable and more precipitous in their appearance so they cause more dramatically visible damage, and therefore, cry for priority in their solution.

1/ The strangness in the procedure was heightened by the fact that it is not customary in primitive cultures for the professional to be cast in the role of the questioner, his is that of ordering.

Change is a concept used in everyone's daily coversations over the twin needs of flood control and irrigation, so it may come as a surprise when I say this concept is the least understood of all principles that are involved in rural development. And it may sound like heresy when I declare that the three parties who are committed to the promotion of induced change through the proposed Citanduy Basin Development Loan for FY 1976-77 -- the United States Agency for International Development, Engineering Consultants, Incorporated, and the Government of Indonesia -- exhibit conflicting, and to varying degrees, uncertainty concerning that concept's fundamental attributes. That the beneficiary in whose avowed interest all the planning and programming in the project are being primarily undertaken -- the farmer -- is neither taken for granted, nor perhaps lost sight of in the activities that will lead toward change, is the purpose of this appraisal.

Speaking as a sociologist,whose professional career has always concerned itself with the promotion of development in that segment of our respective societies in which small farmers work and live, only a cursory look at what has been done in the Citanduy Basin, and what is being planned for its development, is needed before one begins to wonder whether the right roadway toward development has been taken. I would not question the projected dams, dykes, canals, roads and other infrastructure that will be built, but if one is concerned with rural development (which I underscored purposely in the preceding paragraph to stress that is what I have been charged to evaluate), then more than just plain development or change is necessary. It is an understanding of, and agreement of the meaning of "change" that will lead to rural development, I found wanting. The signpost that points the way down the correct road toward rural development, says clearly "Take the way of rural society that has already served it for aeons in your travel toward that new society. That will lead to progress."

Yet, each of the change agents has his special tool kit that he is anxious to impose on the people as though the rural society they have built long ago, and served them, had nothing worthwhile upon which to build. Nowhere is this more easy to identify than in the institution I will herein call the Agricultural Extension Service (AES), locally identified as the Agency for Agricultural Education, Training and Extension (AAETE), and in my opinion, unless the AES is brought more effectively into the center of the development process than I found it to be, the thousand tons of cement and steel that the engineers will have spent in the building of the project will not bring the hoped-for results. Regretfully, the American agriculturist, with the rich tradition that his AES justly enjoys, has shown the least awareness of the problem I describe.

The AES is basically and primarily an educational institution, and in the United States it has always been a cooperative one; in fact, its full name is the Cooperative Agricultural Extension Service, but in its spread around the developing world the word "cooperative" has been left out. There are three partners in that cooperative institution as it functions in the United States -- first and foremost, there is the farmer at the local level who speaks through

his County Agent, a professional agriculturist selected and hired by farmers to serve their collective welfare within the country; then, there are the State and Federal offices. No program, no activity is promoted that does not have the approval of the farmer in the three-way cooperative educational movement. The AES functions differently in Indonesia, having its policies and directives made at the highest levels of government.

AID agricultural specialists do make periodic visits with Indonesian national officers to the provincial offices, to the Kabupatens, and less frequently to the kecamatan. With their subsequent field trip reports indicating the kecamatan was the end of the trip, one has to wonder if they do get down to the desa-unit level, and from there to the desa's satellite villages, known as the kampung. If they have not, the American advisor has not come to know Indonesia's petani, the peasant, who accounts for over 80 percent of the farmers in West and Central Java and even a higher percentage in the Citanduy Basin. It is only there the advisor would be able to observe at first hand, and probably even participate with the AES in the promotion of programs of innovation with the small farmer. He would find the AES has only an indirect contact at that level because there it has to work through the kampung's administrative officer and his agricultural assistant.

While it is true that an inventory of the professional resources of the AES in West Java, for instance, reveals there are more than 100 university graduates employed in the service, all of them without exception are employed at the kabupaten or provincial offices. No more than secondary or high school graduates with some training in agricultural subjects are employed at the third lowest level of government, the kecamatan. Their official title is Penyuluh Pertanian Lapangan (PPL), or Agricultural Field Agent. So, if the American expert stops his field trip at the kecamatan level, which is the lowest level at which the AES functions in the company of his national guide, he will have seen all its operations, to be sure, but he has not yet made the acquaintance of Indonesian farmers. He will have met and perhaps exchanged ideas with only some of them, with the prijaji, or educated, aristocratic, bureaucratic farmer.

The change agent who is in effective contact with the petani, the peasant, is the Pamong Tani Desa (PTD) or village farm officer, a petani himself, with no more education than he may have obtained at the local elementary school, if that much. He is called Ulu in Central Java, and in both provinces these officers are members of the desa or kampung headman's staff. In West Java the head man, his agricultural officer, policeman, and clerk are paid through being allowed to cultivate village common land, Bengkok, with shares of land being proportional to the respective responsibilities of the officials, with the Kuwu or Lurah having the largest shares. In Central Java they are each paid in rice, usually starting with a quota of 2,000 kgs. rough dry stalk rice with the headman, per season, and moving downward as responsibility diminishes.

The bond between the AES and these village farm officers is intended to be maintained through systematic contact between the latter and the PPL of the AES; a sort of in-service training in the currently stressed farming methods serves to transmit some technical information from the PPL to the PTD.

I had the experience of sharing my days in the field visiting peasants and their larger farm neighbors in the company of many a PTD or Ulu, and in the instances where I saw they had the constant, voluntary, and enthusiastic support of the kecamatan PPL, there change and progress were the most apparent. Such desa-units were many and in each where I found this effective tie-in, it took away the bad taste of bureaucracy hanging over from a previous desa where, for reasons of professional ill-feelings or misunderstandings, the PPL assigned in the village complex did not cooperate with the Lurah's or Kuwu's farm officer. I also met some farmers who criticized their farm officers and even the PPL, complaining they seemed to be more interested in receiving than in giving, sometimes with the concerned official being present during the conversations. That, to me, I thought bodes well for the eventual growth of a farm population that is getting ready to participate as a true "cooperator" with the AES rather than be content to receive information through directive and order.

I have indulged in this lengthy saga into the ways of the AES, describing how it functions in Indonesia and in the United States, to demonstrate and to fortify my early statement that change must start at this lowest level, with the farmer, if progress in rural development over the length and breadth of the Basin, and not only change, is to become a reality. The American expert in farm management or extension is not in a position to help the project reach small farmers unless he is willing to go down to their level. So far, he has shown no signs of having done so, and that is why I have said the sheen now being put on the design by the engineers is on the surface only.

True, the peasant is being exposed to innovative ideas and farming methods, and naturally his adoption processes are slow, as they were for all of us when we occupied his level, so that societal change must also come slowly. If the values in Indonesian rural life are to serve as the base on which to build a new society, as is the normal evolutionary process of change, it must start at the petani's level in the kampung. How few among either the American or Indonesian promoters of change have been willing to go far enough down the trail to be able to get their program underway at that true starting line of rural society!

The proposed loan agreement outlines the functions of an added extension specialist that will make him responsible for training of the project's farm agents, in the area of water management, and on-farm management, but I have tried to point out that what I saw of the project as it has functioned to date provided me with no evidence that American experts will have become sufficiently informed concerning on-farm problems to be capable of functioning as trainers.

I will try also to present data to illustrate my extreme skepticism that the implanting of any multimillion dollar "demonstration" plot, built along lines used by the ADB in the Tajum Irrigation Pilot Project, as the feasibility studies propose, is sound. The reasoning behind the designing of 500 hectares demonstration farms is questionable in a project area that has so many variables -- cultural and linguistic; topographic and soil type, and political in that so large an area could not be confined within one of the minor civil divisions in which it is to be established. The fragmented holdings which characterize the region demand the smaller-scale demonstration plots. Fifty ten-hectare demonstration plots would allow demonstrations to be established in each of the desa-units; here, they will be accessible and will have the desired "social spread" effect, whereas the far-off 500 hectare "demonstration" farm will repeat the history of all large-scale, capital-intensive pilot projects that tend to disappear with the going of their benefactors. I found no water users' associations in the project area that had even one-tenth the membership that a 500 hectare type would have, that had any associative features which the sociologist could qualify as such, because they were no more than wishful social groups having been imposed upon farmers under official surveillance.

In a subsequent section I will describe how a successful "demonstration" farm, built by the village farmers themselves and paid for by them, functions; one that has had a spread effect on the entire desa area. I strongly urge a reconsideration of the proposed two 500 hectare demonstration farms.

This detailed discussion of my concern over farm numbers, farm size, and distribution among the several tenurial classes that are common to Indonesia and the AES that serves agriculture was not indulged in as an exercise in census enumeration or semantics. I have detailed the difficulties of arriving at any meaningful data upon which a sociological research venture, such as I was charged to undertake, must be based. It is understandable how a consultant group of engineers who are trained to study a given universe through measurement and analysis of its physical and mathematical components would not be overly concerned with human resources in that universe -- although I personally would not be willing to agree with that viewpoint -- but, how AID can be expected to evaluate the contractor's performance in having designed a development project that will yield benefits to farmers at the different economic levels common in the designated area, when it lacks the necessary means to make such an evaluation, is the issue I am raising with this recounting of my difficulties in a search for factual information.

The attempt at a rationalization of the problem by frequent references that cast doubt on the reliability of published statistics is not enough, in my opinion. Parenthetically, I might say I found no evidence that suggested either the contractor or AID had based their calculations on anything more than those same published statistics. If actual research was conducted upon which the reliability of public statistics can be successfully questioned, then one of the primary responsibilities of the contracting consultant was omitted from its agreement with AID. That would have required the contractor to delve into the

the human resources of farming, at least sufficiently to know, in a general way, for whom to design the proposed construction program; but when the amount of its expenditures in the social sciences is but an infinitessimal fraction of that spent for engineering, obviously the contractor did not feel a responsibility for getting the kind of data I have described.

He is imposing a design that might meet the standards in those cultures where professional operations and maintenance practices conform to the professional costs and standards used in the basic construction of an infrastructure. Since adequate study of farmer-built, farmer-used and farmer-supervised irrigation systems did not precede present design activity, whether the result will be something that the beneficiaries will be willing and able to operate and maintain, would appear to be a fair question.

I was given no alternative to the making of this effort to get facts if I were to meet the terms of my contract which specified it "be carried out within the guidelines in AIDTO Circular A-241, concerning social soundness analysts." (sic). The Circular, Social Science Analysis, states that the "concept of AID policy is the need to assure the wide and significant participation of the poor in the development process. In this sense, 'participation' means not only sharing the economic benefits and contribution of resources but also involvement in the processes of problem identification and solution...The participation approach to development demands that AID project designers and implementors have a much deeper understanding of the sociocultural setting of projects than has been required in the past."

TENURE AND FARM SIZE

Of fundamental consideration in any development project in agriculture where expenditures are to be made in flood control, drainage and irrigation is the question of land ownership; yet this basic question is given only cursory attention in the feasibility studies of the development of the Citanduy/Ciseel River Basin by Engineering Consultants, Incorporated (ECI). Its appendix volume on Land Management is a lengthy treatise on the principles of land management that should be observed if erosion of slope lands, pollution of rivers, and silting of irrigation canals are to be avoided. The discussion could serve admirably as a textbook on land management and could have been written at the consultant's home office, Denver, because there is only scant evidence that the principles of management were measured in the context of the Citanduy River Basin. No references are made to the problems of land ownership; yet the history of reclamation projects over the world is replete with the difficulties of regulating decisions that are based on recommendations of land management experts, as they necessarily should be because of the varying and conflicting patterns of ownership.

Published statistics were used by the agriculturists to indicate the probable number of farmers in the basin and the same source was likewise used to suggest that most beneficiaries of the project will be farmers with small holdings that have a median of only .5 hectares per farm family. Difficulties

of alienating land in Indonesia, a process that would have to take place if land consolidation into more economic units were to be recommended, were also mentioned, but the patterns of land ownership and the probable magnitude of the respective classes of tenurial arrangements were overlooked.

Bearing this problem in mind I seized the first opportunity presented to discuss it with competent authorities when I called on the Inspector General of the Directorate of Agriculture for the Province of West Java, at his Bandung office. Following that, I went to the corresponding officer for the Kabupaten of Ciamis in which district lie 90 percent or more of the agricultural lands in the upper portion of the Citanduy River valley. However, resulting difficulties of communication with the Kabupaten Director and his staff did not allow for clear discussion of the matter because neither the AID interpreter nor representative of the Ministry of Interior, who had been designated to accompany me in my travels in the country, had sufficient knowledge of agriculture, and no training whatever in the disciplines of agricultural economics, rural sociology, or farm management to carry the burdens of communication in so technical a discussion. I was promised the asked-for information would be sent to me, but it did not arrive until I had finished field work and was preparing to return to Jakarta to prepare for the second round of the study. The following are the data in question:

TABLE 1

Farm Size, Kabupaten Ciamis

Size, hectare	Number	Percent
-0.25	96,727	62.7
.25-.49	31,637	20.5
.50-.99	18,986	12.3
1.00-1.99	5,608	3.6
2.00 +	1,331	.9
Total	154,289	100.0

These data would belie the "median of only .5 hectares per farm" above copied, because the true average size seems to be discouragingly small, so small that by any fair measure of economic well-being of a farm system that is today almost exclusively a rice-producing enterprise, can be classified as no more than a "micro farm."

The picture becomes even more beclouded when the same communication from the District Directorate of Agriculture elaborated on the tenurial problem with the following statistics:

Farm owners (petani pemilik)	154,289
Farm renters) Farm cropper) (petani penggarap)	201,244

Correct interpretation of what these latter data mean, within the context of American agriculture, has not yet been achieved. How much duplication there is between the two series, I have not found out. Their true meaning I will leave to a future researcher who will have the company of a counterpart with the necessary competence to be able to interpret correctly tenurial similarities and differences within the respective two cultures and languages.

However, having now been warned that other than owner-operators were involved in the future probable distribution of benefits from the development project, I revised my questionnaire or interview check sheet for the second round to include the four major tenurial classes found in American agriculture. These are: Owner-operator; 2. Renter; 3. Sharecropper, and 4. Farm Laborer, and was given the following translations of these concepts: 1. Pemilik tana pengusaha; 2. Penyakap; 3. Pemilik bukan pengusaha; and 4. Buruh tani, respectively. I was advised to add a fifth, Pawn system, Gadai Tanah, because it was a common arrangement by which a landowner would give his land as security for a specified loan over an indefinite period, the production from that land going to the lender of the money for as long as the loan remained unpaid. The size of the loan was a matter negotiated by the two parties to the loan, not by the probable size of harvest.

The first evidence of how large scale was the practice of absentee landlordism came in Kecamatan Labkok, where data I had copied from the Monografi, a sort of combined vital statistics and public tax record that hangs on the walls of every kecamatan and desa-unit, 1/. My statistical copying indicated there might be as many as 3,400 farm operators in that community. (The data given in Table 1 had been mailed to me and arrived after I was finished with field work in the first phase.) When I then solicited help in drawing a small but as

1/ This is a wall-to-wall blackboard and spills over usually into several rooms of the municipality office; usually the data are entered by chalk, allowing the affected ones to be changed from month to month. Some of the camat who were not in their own offices when I discussed matters with them called for their ledgers in which they had these same arrays of statistics carefully noted. Their behavior indicated long and obviously useful experience in the care and handling of municipal information. Many of them were retired army officers. The AES"Information" Officers did not exhibit the camat's training in the gathering of information and had no comprehension of why such statistics were kept as a matter of current record.

representative random sample as possible from that number, a sub-official spoke up to say there were nearer 7,000 farm units to be sampled in the area than 3,400. Inquiring further into the unexpected revelation I was told the higher number was due to the larger amounts of land held by non-residents and farmed under the system of sharecropping than by its owner-operators, and who were not included in the 3,400. It seems the population data on farmers were only for kecamatan residents. When I asked further who the absentee owners might be, the reply was that some were families who had moved out of the municipality into the larger cities of the district; others were government functionaires and military who lived as far away as Ciamis, the district's capital city, and the still further distant city of Bandung, and some even in Jakarta.

The largest landlord was found at one time to have operated under his own name 70 hectares, half of that in sawah, lowland rice land, and half in tanah darat, upland. When the regulation came into effect that restricted any one farmer's lowland rice cultivation to five hectares, he distributed portions among four sons, and the remainder was sharecropped.

With each of the kecamatans having an Agricultural Extension Service Chief Information Officer, and one or more field agents, and since they are charged with the recording of agricultural statistics in their respective subdistricts, I asked for their same source data on which the kabapaten series (see Table 1) had been built, with only varying results.

The least informed of the AES offices in matters of statistics was found to be the Banjar subdistrict, in which the ECI and Kepala Staf Proyek Citanduy have their base of operations. After trying to list for me the number of sawah farmers by size of operation, in intervals indicated in Table 1, and coming to a total of 17,309, difficulties arose when I asked for their breakdown by tenure. After several attempts it was apparent the officer in charge of information, the AES top man in the subdistrict,did not have or could not supply the needed details. His farm size statistics would indicate three-fourths of the total were under .5 hectares in size, with another three-fourths, in turn, of this group being under .25 hectares. A surprisingly near one-fifth were placed in the larger-than-one hectare in size, leaving fewer than expected in the .5 to .9 interval. Subsequent interviewing of farmers in that subdistrict's kampungs seemed to verify this fact

Watching the process to put into form his impressionistic ideas, leafing over a well-worn pocket notepad as he did so, I couldn't help but marvel at the fragile basis on which official agricultural statistics must rest. This information officer had nothing more than a cubby hole in the rear of the municipal complex, furnished with one small desk and two equally rustic wooden chairs. Nothing more. Not a filing cabinet, not a poster, not a circular, not a bulletin, just nothing more than that pocket notepad and three pieces of furniture. This was in the Basin's largest city complex of near 50,000 people and from where crossroads led to all its major farming areas. With what media could this officer inform?

Results considerably more satisfactory to the foregoing were had in Kecamatans Cisaga and Padaherang, where 64 and 63 percent respectively of all farms were classified as being under .5 hectares in size. When lowland rice was reported separately from upland crop hectarages in Cisaga, only a surprisingly 25 percent were placed in the under .25 hectare farm-size interval among the rice farmers, but this would rise to 64 percent if the 2,486 farm laborers that were reported separately were included among the rice farmers. This was the only office that volunteered data on farm laborers separately and since in all interviews throughout the basin no farm laborers were found that did not also have a small piece of land of their own, almost always under .25 hectares in size, it appears logical to include their numbers in the "micro farm" group. This same reasoning also raises the probability the farm labor element was not included in the "farmer" totals in the other kecamatans, and if true, the percentages of micro farms would have even been greater than the high percentages that I have indicated.

The height of frustration in the attempt to pin down some meaningful data on farm numbers, sizes and tenure came in the last kecamatan visited, Majenong, that lies across the Citanduy River and is in the Province of Central Java. When statistics given by the head man of the subdistrict, its Camat, who was assisted by the AES information officer in the community, showed the number of farmers to be larger than the reported number of families, I tried unsuccessfully to resolve the inconsistencies. Although the AES officer agreed that no more than 90 percent of the family heads could be classified as heads of farm families, and perhaps not even more than 80 percent, but when even such a reduction still allowed for more farmers than there were total families in the subdistrict, I had to admit defeat.

Basing the suggestion on the experiences I have recounted, and surely had by others frequently, I would urge AID cooperation in the establishment of a farm census service that would help the AES get more reliable data at the kecamatan level, since that seems to be the foundation on which information is based.

HUMAN AND SOCIAL RESOURCES

Although the questionnaire used in this study of social evaluation was designed to obtain the usual social and demographic information on family size, structure, age and sex composition, educational attainment of members, school status of minor children, and the work status of those who had left the parental home -- the few days available for the writing of this preliminary report of study findings will not permit more than an elementary hand tally of some major items and nothing more than a simple narrative analysis.

This same statement should be made concerning farming systems, farm organization, farm size, tenure, cropping patterns and production. It would also apply to the data concerning institutional factors in farming, such as sources of innovative practices, the functioning of farmer's clubs, farmer women's clubs, water users' associations, credit sources, etc., etc.

Even the elementary tally herewith undertaken can be made for only some of the villages, and for some of the items gathered in the interviews. In addition to the general information that was obtained from village officials, there are more than 15 major categories in the questionnaire, and each in turn has an average of seven or eight sub-classes. The enormity of the task of full tabulation, to say nothing of cross tabulations of some of the more diagnostic factors, as well as by village, should be apparent. No less than that which was attempted in the field would have justified the time asked of farmers to give us brief histories of their enterprises, and I have recommended that appropriate steps be taken that will assure the data will be brought to light.

1. In the Basin, as generally is the case in farm societies everywhere, farm laborers occupy the bottom rungs of the tenure ladder and are much younger than the occupants of the higher rungs. Looking at these phenomena in Desa Sekong, Kecamatan Cisaga, for instance, the small farmers who supplement their annual incomes by hiring themselves out for work on larger farms during peak labor demand seasons, averaged 31 years of age. They also piled up in the lowest interval of farm size. Other full-time operators were 20 years older on the average, although even that average would have been higher but for two farmers in the group whose ages were 30 and 25 years, respectively. The two would have been, as they surely had been in earlier years, farm laborers as well except their enterprising natures had led each to work as buyers and haulers of coconuts when their time was not needed on the home farm. So they were "entrepreneur farmers."

In the desa-unit of Desa Banjar in the kecamatan of the same name, only three of the respondents were under 50 years of age--48, 40, and 38. The others averaged 66. It might be those who were asked to collaborate in the survey were all "farmers" who could be relied upon to give conservative opinions to the interviewers, although they may have been truly representative of that fringe settlement near the bustling railroad town of Banjar. A fact that lends credence to this supposition is that many of the older respondents were retired railroad employees and merchants, while others were still employed by the railroad.

There were none among the interviewed in this village who had to supplement farm earnings from work as hired farm laborers. It was, in fact, a neighborhood with a preponderance of part-time farmers, in the sense their major sources of income were other business enterprises or some form of public employment.

I am forced to qualify Desa Bangunharja in Cisaga as the most viable of the several villages that were studied. While I will come back to its analysis when other economic factors are discussed, I use the term "viable" in its true and original sense -- not in its corrupt form when used, for example, to indicate "economic viablility" -- that is, when the term only had medical connotations in vital statistics discussions. The average age of household heads was 41.5 years. There were a few in their sixties, more in their fifties, but they were balanced out by those in their thirties. The youngest was 26 and next to him was a man of 30. This is one community that has held fast to its young farmers, not having been abandoned as was characteristic of most of the villages studied in the first stage, and lying in the lower lands of the Citanduy plains.

That it is also a long-settled home place is seen from the farmers who answered my questions concerning the origins of their parents' and grandparents' hometowns. They were unanimous in declaring it had been this same Bangunharja.

This desa-complex was made up of ten kampungs and had a total population of a little less than 9,000. It is located in the extreme northern corner of the Citanduy Project, on the fringe of the Rawa Onom irrigation system. I believe this desa, as is Kamp. Sengkong, both of which nestled in the foothills with the River Cilonje dividing them from one another, might have been located in the Upper Watershed subproject of the Citanduy, rather than the Lower, referred to earlier.

2. While the overwhelming majority of farmers interviewed in all villages had no more than an elementary education, that should be expected of people who live mainly in villages that offer no more educational opportunity than can be had from an elementary facility, public or religious-oriented with the mosque. Parenthetically, school teachers, whether employed in the public or private schools, have their salaries paid from public funds. Having made the comment of the prevalence of elementary education, I hasten to state that differences were apparent between villages, as well as within them. The latter were influenced by age and economic status, among other factors, as well as their exposure to urbanity.

Cilopadang Desa in Majenong and Sengkong in Cisaga tended to have the highest number of illiterate or semi-illiterate household heads. The latter I classify as those with no more than two years of elementary schooling. Returning to the last phrase in the immediately preceding sentence, the first of these desas is bisected by Highway No. 1 that runs all the way from Bandung to the eastern border of the province and continues into Central Java, while the second village is one of the more isolated foothill settlements. We had a three kilometer walk to get to it so I believe I am correct in saying it was an isolated one.

Kampungs Perunglesan and Cimcuijan in Desa Banjar, and Bantaapanjan in Cimanggu had the highest proportions of farm household heads who had a secondary or high school education. The kampungs in Desa Banjar are the same where there were found so many part-time farmers with their main sources of income coming from other employment, including that in government agencies.

Education was highly influenced by economic status, if size of rice <u>sawah</u> or lowland is used as an indicator of economic well-being. The larger the holdings the higher the educational attainment tended to be.

Age was, however, a factor in education, and only multiple correlation calculations can determine their relative importance as variables. In the less traditional villages, or those which had the easiest access to outside communities, young farm owner-farm laborers would be found with a higher education than did their neighboring farm operators. The reason might be the same villages have more advanced educational facilities now than when the older operators were of school age.

In global terms, 15 percent of heads of households with lowland rice areas of less than .25 hectares each were illiterate or semi-literate. There were none such in the interval of .25-.4 hectares, 22 percent in the next largest interval of .5-.9 hectares, and 7 percent in the larger-than-one hectare interval. It was also in the latter interval that the highest rate of education beyond the elementary school was found, one of 25 percent.

3. Education, or perhaps stating it more correctly, a lack of education is also a strong factor in preserving another characteristic of traditional society. Illiteracy,or near illiteracy as this phenomenon perhaps should be referred to, is highly correlated with the phenomenon of finding sons and daugthers who had followed in parental footsteps when starting out on their own. This was not always the case, to be sure, because there were many illiterate fathers who had sons that had been educated to achieve significantly high level public offices. The villages, however, that have already been cited as having the lowest educational achievement scores of their household heads were also in the lead in the proportion of their offspring who had chosen farming.

The most extreme cases of probable parental influence on choice of vocation was found in two families: one illiterate father had five sons, all had chosen to remain in farming and in the same tenure class as their father, farm renter; the other had a mixture of seven sons and daughters and all had chosen to go into farming or had married sons of neighboring farmers.

Having said the above I would now return to the village I had said was the most viable. One household head in that village was semi-literate; another had a secondary education, leaving all the remainder elementary school-educated. Yet, it was in that village that one-fourth of the household heads reported their adult children had chosen to continue in the same vocation as their parents, one of the highest percentages that was found. This may suggest that while lack of education in parents is a strong factor in the non-education of their children and thus not being able to prepare them education-wise for an alternate vocation, the economic well-being of a farmer is a decisive factor as well. When parents such as these had exhibited an ability to achieve a most satisfying standard of living from farming, why should not the children follow suit?

4. While I would leave to others the problem of deciding for themselves the causal relationship in these variables, that education plays a role in farming, cannot be denied. While I do not know its full meaning, I would affirm my belief in no uncertain terms that a lack of formal education among farmers is not to say they are ignorant because of that. That is an opinion, and an erroneous one, widely found among the educated who are assigned to work with farmers. It is also an attitude that may be at the heart of the problem that hinders effective communication between the two.

I would go farther. It is no longer necessary to spend so much effort and money to <u>tell</u> farmers about the advantages of using superior rice seed varieties, the increased yield that comes from the proper application and amounts of fertilizers, or the positive effect of insecticides. In this case I should again state I am talking about promotion of innovative technologies with the Indonesian

peasant, whose only capital resources are those of a piece of land less than .5 hectares in size and his underutilized family labor. Demonstration farms that have access to the use of unlimited quantities of inputs may do more harm than good, unless the promoters of induced change in those pilot farms first assure themselves that the hoped-for innovator acceptors have access to the same seeds, fertilizers, amounts of water, and insecticides as they do themselves, and that these will be available in quantities and at times that need dictates, and at prices (subsidized if necessary) to place them within the reach of the income levels of farmers for whom the demonstrations are intended.

The professional promoter of change with the small farmer, who has not learned that the best fertilizer is the footprints of the farmer on his paddy, has yet to learn the elementary qualifications of a change agent.[1/]

If the change agent would cultivate an understanding of the farm work patterns of the mono-cultural rice peasant, he would have learned that one of his major detriments to larger harvests is his lack of weed control. Weed control is not only a response to chemical applications, it is first and foremost a response to hand weeding. If there are no footprints in his paddy, then the farmer has chosen leisure over work in the long period of months between planting time and harvest. If the professional agent would go barefoot into his demonstration plot, at least weekly, so as to make the field weed-free and soil kept friable and aerated, as much as a partially innundated paddy can be, his demonstration would show the farmers how to control weeds and how to keep down the insects and diseases that thrive in weedy fields, all resulting in bigger harvests with no more cost than the investment of some of the peasant's leisure time.

I return to my statement that illiteracy cannot be equated with ignorance. With millenia of rice growing in his tradition I have found without exception the small farmer ready and eager to follow a demonstration made by a change agent who based his demonstration primarily on the same resource with which peasants are blessed -- his own labor -- to bring out his teachings. When demonstration farms thrive only so long as their insatiable appetite for cash inputs is satisfied, including hired labor -- instead of that of the change agent's -- farmers are not prone to follow the example because their resources will not permit them to do likewise. In that decision, I would maintain, they are exhibiting unquestioned intelligence!

1/ See Juan M. Flavier, Doctor to the Barrios, New Day Publishers, Quezon City, Philippines, 1970.

Fortunately, Indonesia does not have to copy "demonstration farms" from other countries, as it is now trying to do. It can turn to its own dramatic success story, one whose correct history tends to already be forgotten. I refer to the early experiment from which the current BIMAS program was copied, when upper classmen from Bogor's Agricultural Institute went in pairs to villages and there, with small groups of farmers numbering no more than 100, joined in the daily planting, weeding, and cultivating of rice paddies on the farmers' own fields. This is what got across the first basic change that occurs from adoption of improved technology, and when these youthful pioneers of change were ready to "tell" about their experiment, religious leaders, like the Alim Ulama, were brought in to help spread that story, as was done so well by early BIMAS in Central Java.

I know I have been dogmatic in my assertions, especially those touching on adult education, but that has been intentional. I have been motivated by the hope that I might influence my agricultural change agent colleagues -- and I do not limit this to the Indonesians -- to repair the weakest link I found in the development process. That is the communications gap between the professional and the peasant, a gap that grows steadily wider with the increase in number of university educated agents. There is, however, an effective remedy at hand, if it will be accepted. That is, to assign all new professionals, to a reasonable minimum trial period -- one year, two years, three -- of service at the desa level where they will learn the two key individuals in the rural development process are the Lurah and the petani.

It will be understood from the above why I emphatically disagree with the provision that is universally found in all AID PPs that concern agricultural development -- a recommendation that the AES in the host country be fortified with more university educated staff. I hope I have demonstrated that the need is more fundamental, more elementary than is this shop-worn remedy, one that has so long since outgrown its effectiveness. Here, as in all developing countries, the number of university educated professionals is getting to be in excess supply, so much so that it becomes embarrassingly difficult to accommodate all of them in the national and provincial headquarters offices, where they are prone to concentrate. Civil service regulations, I have found in some of the countries, prohibit the assignment of a professional upcountry once he returns home from an American university with his AID-financed degree!

THE FARM BASE

1. Adding up the score, 19.6 percent of the farmers interviewed had lowland rice areas that averaged under .25 hectares in size, 26.8 percent had .25-.49, 31.7 percent had .50-.99, 15.4 percent had 1.0-1.9, and 6.5 percent had 2.0 or more hectares. This does not argue well for the representativeness of the sample when compared to the distributions shown in Table 1.

Two factors account for most of the sample's skewness. The first and principle one was a forced attempt to penetrate more deeply into the prevalence of the sharecropping system, one whose magnitude and influence came out quite unexpectedly in the first stage study. The second major factor was the manner in which participants in the sample were selected. Their selection was determined by the village headman and his agricultural officer. In each instance they were requested to convoke numbers proportional to their appearance in Table 1, and the reasons for this proportional representation were explained, but I also asked that sharecroppers and landlords in each size interval be included. I was not hopeful of getting more than approximate results from officials whose level of knowledge would have given them an understanding of the concept sampling, to say nothing of social sampling, and I do believe I did get their best efforts toward that end. After all, they had only an overnight's time to try to call the farmers together.

As it turned out, quite a number of landlords entered the sample, but very few of the croppers. One can but speculate on all the reasons for this occurrence but I don't believe it would be unfair to say the cropper only infrequently attends meetings at the village bale where we were to have interviewed him; to have him appear would have held up the production partner in the sharecropper system who does the manual work. Furthermore, the change agent or village farm officer who carried the message of our meeting to the villagers, has little contact with croppers, laborers, and the smallest of owner-operators, unless these latter also happened to be merchants, school teachers and other public employees, whose farming was only a part-time enterprise. The preponderance of replies from those in the lowest economic strata when answering the query concerning their contacts with the nearest official promoter of innovation, were recorded by the interviewers with "No," and many times with an emphatic, "No, never." My interviewers having become influenced by the unfairness in some practiced induced techniques of change.

They are the forgotten souls -- and they number in the tens of thousands of families -- in this Basin's endeavor of development. They will be the last to share its benefits, and then only indirectly.

The survey did not reach them. A day for interviews per village chosen forced the type of group interview procedure in the bale that I have described. While it had some unexpected serendipity effects, as I have above said, it also had serious shortcomings. The only manner in which "poor farmers" can be reached is for a study to allow interviews to be carried on in the homes during the workers' free time during evening hours. In accepting this assignment I protested that its designers disregarded tested and successful research procedures and

techniques in underdeveloped rural societies, when they expected such an in-depth study to have been made within the time limits specified. I do not now want it to appear I make these comments as an apology for the incompleteness of the report; I merely want to help avoid a repetition of the same experience with others should the facts requested in AIDTO Circular 241[1/] continue to be sought.

That those facts are needed, I have long and repeatedly contended, and I would now take the opportunity to suggest to policy makers within the organization that a radical and extensive reorganization in staff assignment is needed for AID missions to meet their responsibilities under these new project guidelines. This means a staff in the divisions most concerned who will spend a major share of their respective tours of duty at the very level where a designated project from its division is designed to make its impact.

2. With respect to tenure, a preliminary tally of sample data shows that owner-operators, large and small, were in the majority, accounting for 58.1 percent of the total. The second largest group are owners also, 14.5 percent of the total, but they have other sources of income as well. That income may come from their activities as merchants, or being employed as school teachers or as other public employees, from municipal offices or from public pension systems. They usually, but not in every instance, operated their farms through the hiring of laborers; but if the other activity did not demand too much of their time, they were their own operators.

The third largest tenure class was that of landlords, who lived on the rental or the sharecropping of their holdings. The latter was the more prevalent practice. Landlords made up 12.9 percent of those interviewed.

Farm-owner farm laborers were in the fourth largest category of tenure, making up 8.9 percent of the total. Had time made it possible to question them more closely it is highly probable that the small area of land this group cultivated as their "own," was in reality sharecropped. So few were classified as croppers, and the prevalence of landlordism and absenteeism makes it logical to suspect many of these owner-laborers in reality were croppers. I also believe had the interviewers possessed more knowledge of agriculture the give-and-take in questioning would have given clues as to the respondent's true tenure status.

Only 4 percent were renters of land, leaving the very small remainder of 1.6 percent classified as croppers.

1/ This is the local Mission's number. That which appears in my contract from Washington specifies 261.

Other details, such as size of operations by tenure,production, and above all, sharecropper arrangements in the provision of inputs, will have to be deferred for later analysis. I would only here say on this later score that no uniform pattern of sharing was encountered. It varied according to sanguinity of the partners in the arrangement and very sharply by supply and demand. And I refer to the cropper in the two factors -- were he in surplus in his community his share of net harvests was the smallest.

3. I would make one more final observation on sharecropping. It was most prevalent in the upper basin lowlands that were first supplied with flood control and irrigation canals, infrastructure that was started by the Dutch but finished by the GOI Department of Public Works after 1945. In the earliest years of the Republic it was these lands that were the first to be distributed among farmers with the passing of colonialism, under a land purchase scheme. When recurring floods or droughts, as the case might have been, brought crop failures, payments could not be maintained for the land and its repossession by the government's banks took place. Later governmental programs redistributed these frozen assets of government banks, but, it appears, in larger-sized units and to others, who are now their owners.

So, in no more than one generation, the wheel has gone full circle. Whether croppers enjoy better levels of living now than did farm workers under the earlier colonial plantation system, is a nice question. It would be absurd for me to try to give an answer from the limited time I had to observe the problem. A scholarly study of the phenomenon is needed to do that. It would have to delve into historical records and try to reconstruct historical processes where recorded information is lacking. It would make admirable material for a series of doctoral dissertations by the agricultural faculties of the universities in the two provinces, perhaps with the collaboration of similar institutions in Holland, because undoubtedly a search for much of the historical material would take one to that country.

The lowest levels of living, the most miserable of poor housing, the most abject of educational and health facilities, were in the lowland areas of North and South Labkok, the areas with the highest rates of absentee landlordism and sharecropping. What I have just said is also written on the monografi which lines the walls of their desa-units, where the consequences of a permissive society are seen in statistics of stark reality. When I was copying these statistics in one of the desas and had duly noted the numbers of families, amount of land in sawah, numbers of buffalo (more correctly, their absence in a labor surplus area) and other draft animals, and had even curiously noted the numbers of motorized vehicles (none), the few motorcycles and bicycles used for transportation, and even such luxuries as television sets (four) and radios (more) I encountered the most dismal data of them all. And this was the only area in which I saw listed that information. That concerned the number of families dependent on public charity and the number of abandoned children and orphans, kampung by kampung.

I won't identify this desa by name but it was a large one. It had eight kampungs, with none of them having fewer than 1,000 inhabitants and some having more than 2,000. They were too large to be hamlets, at least, the sociologist would not classify them as such. The numbers of society's unfortunates were significantly large, therefore, in this desa complex.

Misery, throughout the rural world, is highly correlated with the prevalence of sharecropping. In Latin America, where latifundia is rampant, or the absentee ownership pattern carried to that region by its Iberian colonizers, after decades of land reform efforts of the several governments, only now has a dent been made in erasing the social consequences of absentee landlordism and sharecropping.

I think the appropriate government agencies with representation on the Citanduy Project Coordinating Committee, should address themselves to the question of absentee ownership, and at the very least, try to promote modern legislation that would no longer leave the welfare of the cropper entirely a matter in which the landlord makes the decisions. It is of sufficient magnitude and its potential social and political unrest so real, its regulation should be of public concern.

4. Production data for the five desa-units that have been tallied are shown in Tables 30 a, b, c, d, e. I can only make some general observations, but even those will show a wide variance between the villages. This variance is seen to be a function of many variables, one is the type of irrigation system, that is, whether the village has what the engineers call Technical Irrigation, the other is Semi-Technical, and the third is Rain-fed.

Another variable will be drainage, as the tables show. Lowland farmed under the rain-fed system suffers from drought, to be sure; but very often monsoon rains leave residues behind that are so slow in running off that planting is delayed in the "dry" season and a resulting harvest loss is incurred. Or the rains may be heavier than the paddy can withstand, so yields will fall.

Diseases and insect infestations are also rife where land is low and poorly drained.

Production averages have been computed on area of sawah owned, not on area planted each season. That fine a breakdown required too long to try to obtain because of two important factors beyond control, therefore it was not attempted after a few days were spent in the process. One of the hindrances was the lack of experience on the part of all the staff in interviewing. That is an art and certainly has not been grasped by an interviewer who has to continue reading his questions from a page, question by question, up to the very last day of interviewing. A skilled interviewer would have managed to obtain answers to most of the questions by artfully getting the interviewee to engage in conversation, so successfully that the respondent forgets he is being interviewed. Incidentally, answers tend to be more reliable when obtained in that manner. But, be that as it may, there was another handicap. Only those professionals loaned for a few days by the Citanduy Project had competence in agriculture; the permanent staff had no such competence whatever.

Kampungs:
Cikabuyutan and Tanj. Syukur, Desa Banjar, Kecamatan Banjar, Kabupaten Ciamis

Table 30a. Farms Classified by Size of Lowland, (bata) Yield in Kgs. Dry and Wet Seasons, Irrigation System, Percent of Losses

Size (bata)	Yield in kgms. Dry	Wet	Irrigation System TI	ST	RF	Percentage Losses Dry	Wet	Comment
3,500	15,000	10,000			x	33	50	2/5 of land s/c in Padaringan
1,200	7,140	7,140	x		x			Land in Padaringan s/c
800	4,000	4,800			x			Share cropper gets half this yield
500	1,250	1,750			x	10		His share, 1/2 to s/c
500	800	1,200			x	73	60	
400	1,600	2,400			x	10		
400	800	1,500			x	% N.A., "poor drainage"		
400	1,000	1,600			x	50	36	Too much shade from coconut trees
300	1,500	1,500			x			
250	1,000	700			x	% N.A., "excess water"		Railroad employee
230	900	1,200			x	35	13	Railroad employee

Fringe kampung of Banjar, home of government employees who share crop their Banjar plains land, some of it as far distant as Padaringan. Only rural rain fed systems, awaiting development of irrigation and, more importantly, flood control because "dry season" suffers from slow runoff of rainy season waters.

Average yield dry season= 2,945 kg. dry stalk/ha.
Average yield wet season= 2,845 kg. dry stalk/ha.

1 Ha. = 714 bata
D = Dry
W = Wet
TI = Technical Irrigation
ST = Semi T
RF = Rain-fed

Kampungs Desa Taming & Kolot, Desa Bangunharja, Kecamatan Saga, Kabupaten Ciamis

Table 30b Farms Classified by Size of Lowland (bata); Yields in Kgs. of Rice Dry and Wet Season, Irrigation System, and Percentage Loss Each Season

Sawah Size in Bata	Yield in Kgs. Dry	Yield in Kgs. Wet	Irrigation System TI	Irrigation System ST	Irrigation System RF	Percent Loss Dry	Percent Loss Wet	Comment
700	4,200	4,200		x	x			
700	4,200	4,200		x				
500	3,000	3,000	x					
500	2,500	2,500			x			Coconuts, Cassava
500	1,500	1,700	x					
	1,300	1,000		x				
450	1,800	1,800		x				
400	1,600	800	x			5	50	Carpenter also
400	1,600	2,400			x			
350	1,000	1,300		x				
300	1,500	1,800	x	x				
300	900	1,800		x	x	50		Merchant
300	1,500	1,800	x	x				Coconut
300	1,000	1,500	x	x		42	8	
300	1,500	1,800		x		8		Coconut
300	2,100	2,100		x				
250	1,000	1,000		x		33	33	3 Fishponds
50	250	250		x				Coconuts, Cassava, Tea, Coffee

1 Ha.= 714 bata D= Dry W= Wet TI=Technical irrigation ST= Semi T RF= Rain Fed

Average yield,Dry Season, 3,570 kg./ha. dry stalk
Average yield, Wet Season, 3,856 kg./ha. dry stalk

Kampung Parunglesan, Desa Banjar, Kecamatan Banjar, Kabupaten Ciamis

Table 30c Farms Classified by Size of Lowland, (bata); Yields in Kgs. Dry and Wet Seasons, Irrigation System, Percent Loss

Sawah Size in bata	Yield in Kgs. Dry	Yield in Kgs. Wet	Irrigation System TI	Irrigation System ST	Irrigation System RF	Percentage Loss Dry	Percentage Loss Wet	Comment
2,856	8,000	6,000			x	50	50	Basic problem, poor drainage
2,500	3,750	3,750	) 400 in Banjurharja	) 500 in Padaringan	) 1600 in Padaringan			Larger unit share cropped, yields are global estimate of his three units
900	3,100	3,750			x			
900	--	--			x	33	33	Yield confused by 500 s/c
500	1,000	1,500	250		250	No estimate		Operates two units
550	2,000	2,575			x	38	10	Also has 800 bata s/c
500	--	1,000			x	--	25	Merchant, this his half s/c
500	1,000	2,000			x	67	33	Also has 300 bata s/c
500	1,000	1,500			x	67	50	Land s/c in Labkok
270	--	900			x	--	26	Merchant, with hired laborers
300	900	1,200			x	50	42	Merchant, with hired laborers
300	300	600			x	50	17	Share cropper, now unemployed
230	200	690	x			85	50	Weeds, basic problem drainage
200	600	900	x					
200	800	800			x	12	12	Weeds and diseases
150	--	600			x	--	17	Merchant, with hired laborers

1 Ha.= 714 bata. D= Dry and W= Wet seasons. TI= Technical irrigation, ST= Semi T, RF= Rain Fed

Note: Suburb of the town of Banjar, primarily land owners who were government employees or railroad-employees were given team for interview. Apparently no strong demand to break away from rainfed system because it requires little cash outlay. While excess rain during wet season is slow to run off, the landlord has lost in his investment but easy to recruit new share croppers, if necessary, because of abundance of surplus labor.

Average yield, Dry Season = 1,428 kg./ha. dry stalk
Average yield, Wet Season = 1,760 kg./ha. dry stalk

Kampung Parunglesan, Desa Banjar, Kecamatan Banjar, Kabupaten Ciamis

Table 30d Farms Classified by Size of Lowland, (bata), Yield in Kgs. Dry and Wet Seasons, Irrigation System, Percentage of Losses

Size (bata)	Yield in Kgms. Dry	Wet	Irrigation System TI	ST	RF	Percentage Loss Dry	Wet	Comment
2,856	8,000	6,000	400 in Banjurharja	500 in Padaringan	x 1600 in s/c in Padaringan	50	50	Basic problem, poor drainage (These are global estimate (of yields from his several (s/c systems
900	3,100	3,750			x			
900	--	--			x	33	33	Yield confused by 500 bata s/c
500	1,000	1,500	250		250	No estimate of loss		Operates two systems
550	2,000	2,575			x	38	10	Also has 800 bata s/c
500	--	1,000			x	--	25	Merchant, this his half from s/c
500	1,000	2,000			x	67	33	Also s/c 300 bata
500	1,000	1,500			x	67	50	Land s/c in Lakbok
270	--	900			x	--	26	Merchant
300	900	1,200			x	50	42	Merchant
300	300	600			x	50	17	Unemployed (this season)s/c
230	200	690	x			85	50	Loss due to weeds and disease (basic problem lack of drainage)
200	600	900	x					
200	800	800			x	12	12	Weeds and diseases
150	--	600			x	--	17	Merchant

Another "suburb" of Banjar, primarily land owners operating through share croppers were given us for interview. Apparently to continue rainfed gravity bund system of cultivation, requires little cash outlay, and while excess rains that do not runoff in dry season, hurting yields in both seasons, the landlord hasn't lost much, and with surplus labor it is not difficult to recruit new share croppers, if needed, each season.

Average yield, dry season = 3,000 kg/ha dry stalk rice

1 Ha. ≈ 714 bata

Average yield, wet season = 3,160 kg/ha dry stalk rice

TI = Technical irrigation

ST = Semi T

RF = Rain-fed

Kampung Sindang Hati, Desa Bantan Pantjang, Kecamatan Cimangu, Kabupaten Cilacap

Table 30e Rice Enterprises by Size, Ha., Yield in Kgs., Dry and Wet Seasons, Irrigation System, Percentage Seasonal Losses

Sawah Area Ha.	Yield in Kgs. Dry	Yield in Kgs. Wet	Irrigation System TI	Irrigation System ST	Irrigation System RF	Percent Losses Dry	Percent Losses Wet	Comment
4.0	6,000	12,000			x	50		200 kg.fert./ha.
4.0	3,000	12,000			x	75		200 kg.fert./ha.
2.5	2,500	3,000		x				Too far pump
2.0	3,000	6,000			x	50		400 kg.fert./ha.
2.0	800	6,000			x	87		
1.5		4,050			x	100		Pump too far
1.0	2,600	3,000			x			
1.0	2,600	2,600		x				Chmn. Darma Tirta
1.0	1,500	2,500			x	50		School Teacher
1.0	1,500	2,500			x	50		Merchant
1.0	1,250	2,500		x		50		Pump not enough
.75	2,000	3,000		x		60		Teacher
.5		1,500		x				Village Chief
.5	750	1,250		x		50		Teacher
.5	1,200	2,000		x		50		Ulu too bossy
.5	700	700		x		50	50	
.5	750	1,500	.25		.25	50		
.3	400	600			x	50		Not in BIMAS (Only non-member)

The consistently heavy losses in the dry season attest to the need of an effective irrigation system. The 4 diesel pumps now providing irrigation water are not enough; possibly a weir in the headwaters of the Cikawung River should be explored as a possibility.

Average yield, dry season = 1,300 kg.dry stalk/ha.
Average yield, wet season = 2,800 kg.dry stalk/ha.

TI = Technical irrigation

ST = Semi T

RF = Rain-fed

Having made these cautionary observations I would offer the following general comparative statistics:

Village Unit	Kgs./ha/ Dry Stalk Rice	
	Dry Season	Wet Season
1	1,430	1,760
2	3,570	3,855
3	3,000	3,160
4	2,945	2,845
5	1,300	2,800

I would call attention to the commentary in the tables and the estimates that were attempted to compute percentage of crop losses in the respective seasons.

Inputs of fertilizer, seed varieties, and varied labor factors in land preparation, harvesting, and threshing will all have to wait for later analysis.

5. From Tables 30 a,b,c,d,e will also be seen information that describes the irrigation systems available to farmers in these desa-units. A general observation I would make is that when an estimated seasonal loss in harvest yields is made, usually that is lowest or absent in most farms during the dry season where Technical Irrigation or Semi-Technical systems obtain. There is one notable exception to this generalization, that is in Kecamatan Cimanggu.

There, all but one irrigation system was classified ST. Why the other was not might be due to a personal interpretation of the interviewer that might not stand up under the scrutiny of an engineer. Be that as it may, in the ST system, large and consistent losses were reported by farmers dependent upon the system's irrigation because the water came from four Diesel pumps, each of four inches diameter, the four pumps were not sufficient to supply the required amount of water through the critical periods of the dry season.

The efficiency of TI in Kampung Perunglasen, for the minority that have it, is attested to by yields that were not reduced by losses in either the dry or wet seasons. But, note the losses in the RF systems, they averaged 50 percent in the dry season.

I would call especial attention to Desa Bangunharja in Kecamatan Cisaga, a desa-complex I have already referred to as being ideal. There, all but four of the 17 interviewed farmers were classified either TI or ST. Why the difference I do not know. Perhaps it reflected the competence of the interrogator, some having been technically trained in agriculture, others were not.

Bangunharja is in the foothill region, as I have already said,and when the Kulu invited me to see their Mitra Cai facilities (provincial name given to water users' associations), I readily accepted. This meant walking down the mountain side, because the irrigated plots are in bunds at varying levels of the hillside; the rice land is not therefore the typical lowland or sawah, but a series of terraced plots on the slopes and dependent on river water for irrigation. That river water is guided down the slope in canals, from terrace to terrace by gravity. Not being an engineer I would classify all this as ST rather than TI, because the latter is made up of a system of canals, gates and delivery systems on the plains. See Plates

When I did reach the weir it was then having the date of its completion painted on it -- 5 December 1975. Four years of construction, all work done by the members, including design of the weir and canals, with advice from the Kecamatan PPL, a devoted change agent who visited this desa three times a month on his motorcycle, when the River Cilonje is low enough. The first day we went over to the other side, there being no bridge and the water being too deep, we had to wade and then continue walking up the mountain to the village.

The weir cost Rp. 97,500 and was paid for by an assessment on the 120 members at a rate of Rp. 700 per 100 bata of rice land. Being situated,as the village is, in the foothills, its rice lands consist of a series of terraced plots, going down several hundred meters from the highest to the lowest. In such a system water will sometimes be in short supply in the dry season and sometimes in excess in the wet. But the high yields and low losses -- highest and lowest, respectively, of all villages studied -- attest to the expertness of construction of the farmer-built, farmer-operated, and farmer-maintained irrigation system.

The Mitra Cai has 120 members, all paid up, with 5 kg./100 bata wet rough rice per season. The money pays for the services of the ditch rider, but for other accidental repairs special assessments are made. Farmers here have learned rewards from land are proportional to their acceptance of responsibilities. Thus, the only community where farmers paid for monthly membership in the Farmers Club, the Mitra Cai, and built all resources with their own labor and money, their maintenance and gotong royong spirit were the highest. In contrast, government-built and government-paid installations function as long as the government continues their maintenance -- no longer.

Time will not permit but one more general observation. The Mitna Cai irrigation systems in West Java, or Dharma Tirtas in Central which I saw, are paper organizations in contrast to Bangunharja. So long as they exist through edict of provincial governors, a decision accepted and passed on by the kabupaten bupati, and then dutifully implemented by the camat and finally, the lurah, they will remain only that.

What I have just said can be corroborated from the village production statistics, from the unwillingness of some of the more efficient farmers to join a movement that is nothing more than an extension of bureaucratic control. All this in so marked contrast to the enthusiastic participation of all farmers within reach of the canals in Bangunharja. It was their organization as an association should be!

It is unfortunate that Citanduy staff have given attention only to officially designated WUA. In this I do not except the ADB Tajum pilot project. As a consequence I must ask if the Citanduy staff will be prepared to design and help build genuine association systems? I underline the two words because if the farmers do not participate in their building and financing, they will never be a true association effort.

What more proof is needed than the extensive system of dykes and canals, weirs and dams, that now call for repair and rehabilitation throughout the Basin? Had farmers in the Basin participated in their design, construction, and cost, would their maintenance and operation have been so flagrantly ignored by them and been left to the government, which for reasons that have not been satisfactorily explained, failed in its operations and maintenance responsibilities.

INNOVATIVE PROCESSES

Institutional factors evaluated were, in addition to general education discussed above, the role of the AES in the introduction of change. This was looked at, on the one hand, from its individual or agent-farmer contact, then through its group promotional activities. These latter included Water Users' Associations, Farmers' Clubs, Farm Women's Clubs, and Youth Clubs, and finally, its demonstration farms. WUAs have already been described.

Only a few general observations will be made because their tabulation is too intricate to allow it to be quickly hand tallied; I believe, however, this will be enough to indicate the process, see some of its handicaps, and its more successful role at the promotion of innovation.

1. I tried in this portion to show which change agent the farmer looks to when he seeks innovative ideas. It was by no means the well-known evaluation of the Extension Service that is an on-going process in the United States; it was merely an attempt to have the farmer designate who the individual is who has helped him the most, or if anyone has been of significant service. The answers were not fully objective because they were given many times with the PPL or the PTD present. Even a few farmer questionnaires were filled out by these two change agents, at my request, in the hope that I could act as a change agent myself. If these agents were given some instruction in elementary principles of agent-subject rapport, I reasoned to myself, perhaps they will gain more insight into the voluntary nature of extension, its teaching function in place of the ordering they are accustomed to. It wasn't surprising, therefore, to see both referred to as the "chief" innovator although instructions were clear that only one source should be indicated. The duplication was 100% in Langensari because both agents were enthusiastic participants throughout the session, a capital resource from which that village's farmers will benefit enormously.

The following is the result of a tally I was able to make of the replies that could be clearly differentiated:

Farm Size, hectare	Change Agent Contacted		
	None	PPL	PTD
-0.25	2	--	1
.25-.49	6	4	18
.50-.99	6	10	20
1.0+	4	12	18

There appears to be only one clear tendency in the above data: that is, the PTD was the most frequent agent indicated. This trend was, of course, to be expected because the PTD was the person most evident and the one closest to the farmers in that he lived, not always but in most instances, in or very near the kampung that was visited. Had we visited in a more urban environment it is probable that the PPL would have been more prominently in the farmers' minds. In fact, that was true in the desas in closer proximity to the kecamatan headquarters; in some instances in those villages farmers claimed the chief source of their innovation was the AES Information Chief. When I first saw that in a respondent's questionnaire I had visions of the farmer having gone all the way to Ciamis to contact the Director General of the AES, as in the case of American farmers of commercial stature who bypass the county agent and go direct to the fountainhead of information, the Agricultural Experiment Station. It turned out, the reference was to the Kecamatan Information Officer.

There is evidence of a trend to suggest the larger farmers sought neither of the sources suggested to them in more frequent instances than did the smaller farmers, but when he did, he preferred the PPL.

The data do support the observation so frequently made that the mainstay of innovation in the village is the village-paid farm officer. I don't believe the conclusion can be escaped: if we desire programs that will reach the farmers, greater effort should be made by AID experts to establish working relations with the village-paid, village agent than with the AES, with whom he has been prone to give all his attention.

2. Table[1/] offers tabular understanding of who and what proportion of farmer participants are in the two AES group programs, the BIMAS and Farmers' Clubs.

This hand tally does not account for all interviewed farmers because more time is needed to decipher interviewers' comments to properly code the recorded response.

Almost nine-tenths (89 percent) of those interviewed, participated in either BIMAS or INMAS, the far greater majority in the former of the two. The data are not representative enough to speak with certainty, because for reasons that have already been elaborated, more large farmers entered the sample than would have been the case had the composition of the sample followed the proportional distribution in the universe sampled as described in Table 1.

Data obtained from the Kabupaten Directorate of Agriculture in Ciamis records 73,732 farmers took part in the BIMAS program in 1974, or slightly under half of the reported 154,289 farmers; the high percentage of non-participants in the sample's lowest interval would suggest that the program is selective. This is also borne out by the reasons advanced by the smaller farmers for their non-participation. That reason almost always tended to be an economic fear of being able to repay the BIMAS loan if their harvests turned out to be small that family consumption needs would have been endangered.

There appeared to be little variation between villages, although in three of them 100 percent of the respondents to the question on BIMAS replied they were participants.

3. The story is quite different when the farmers were asked about their Farmers'Clubs or other voluntary group activities of the AES. On this question the participating members were outnumbered almost two to one by the non-participants, 39 and 61 percent respectively.

It is my belief that these differences strongly support the point I have tried to make throughout this report, using various approaches in the argument, that the AES has a long way to go before it becomes a successful <u>educational</u> institution, such as true extension should be. It should be an educational effort that helps <u>lead</u> farmers into making their <u>own</u> decisions that make for <u>higher standards</u> of farm living for farm families. I have not seen anything

1/ following page for unnumbered table.

in the reports of the AID agricultural staff that would indicate they have even been concerned with this question, a question that I believe is of the utmost importance if our aid to developing countries is to reach needy people.

Listening to the give and take in the interviewing, and in those cases in which I intervened, it was clear that many affirmative replies to Kelompok Tani were erroneously recorded as such. The discussion tended to indicate a farmers' club was often confused with other social affairs, so that the percentage of negative replies should have been much higher.

My contention would be supported by statistics given by the Kabupaten Directorate of Agriculture. His report gives the following information for the Regency of Ciamis and this is where all but two of the villages are located, both those studied in Phase One and Phase Two:

Farmers Clubs		HomeMakers Clubs		Youth Clubs	
Number:	568	Number:	35	Number:	20
Members:	11,360	Members:	880	Members:	400

When the attempt was made to measure intensity of participation in the clubs by asking of the respondent if he had served as an elected officer at any time in the club, that evoked either a totally negative response or one of wonderment as to ask, how could he, a simple farmer, be an officer in a government affair? The Clubs reported in the province or Regency of Cilicap were all chaired by the village headmen; they were organized at their behest so that the trend of the responses was clear. If the respondent were a large farmer, especially also if he happened to be a merchant, teacher or other public employee, the answer was affirmative. Smaller farmers had never heard of the club or if they had, they seldom affirmed their membership.

On this score at least, and on the Dharmi Tirta or Water Users' Associations that have previously been described, the much vaunted superiority of the AES in Central Java, was not evidenced by the two kecamatans that were visited.

4. What general tendencies I have described stem, I believe, from the training given agricultural agents. Their studies are heavily loaded with subjects concerned with the science of agriculture. Little has yet been taught concerning the economics of agriculture, its marketing needs, and less on club and social aspects of farm family living.

The AES did announce more than a year ago that it would give special attention through its field workers to matters of nutrition, home sanitation,health, and child welfare. One of the questions was designed to center on the results of that announcement. Nothing whatever was found. Farmer Wives' Clubs, Youth Clubs were non-existent, or nearly so.

Having painted this gloomy picture I would like to take a glance of what can be done in the Basin if the staff already there has the desire to do so. I say this to forestall the remedy some will already have in their minds -- the AES needs more help! To make my point I have to again return to Bangunharja.

As the above table shows, only 3 of the 19 farmers interviewed in that village complex were not members of Tarunah Tani Utamah I, as they called their Farmers' Club. One, because he belonged, at age 32, to the other Tarumah Tani Utamah II, that was organized especially for youth. The second non-member of Utamah I lived too far off but said he tuned in his radio to make up for his non-participation by listening to its farm programs. The third pleaded old age, and he was in his 70's.

Speaking of age, I am reminded of the reason advanced for the non-membership status given by so many farmers although a Kelompok Wanita Tani, Farmer Wives' Club, did exist in their village -- "too old." Yet, the respondents' wives were then only in their early forties. The answer indicated they had failed to grasp the function of such a club as asked for by the interviewer.

The PTD is the acknowledged contact for both Utama I and II, but he is ably and enthusiastically supported by the PPL who makes thrice monthly visits to meet with the two groups. Three trips up to that foothill village every month! He keeps them supplied with discussion materials, and I have already said the economic well-being of the kampungs in this desa-unit stands out so that no visitor can help but both see it and feel it as enters them. Discussions in Utamah I concern themselves not only with rice, but with the marketing of cloves, tea, coffee, coconuts and other fruit the highland plots provide.

Each member is assessed 3 kg. rough rice yearly to pay the club's running expenses. It is now in the fifth year and going strong. One hundred percent of membership dues are paid up.

Utamah II is also a story completely unique for the Basin. It has 38 members under the chairmanship of the PTD, and not all are "youth" as I have already indicated. The Club has now rented for five seasons a plot of sawah of three hectares in size, in which members do the work and share the profit from its harvests, after expenses for fertilizer, seed, water, etc., have been paid. Rental is Rp. 25,000 a season. This "demonstration" plot has been yielding approximately 5,600 kgs/season in recent years.

There were no farm laborers that showed for interview with the team. All work appears to be done on the gotong royong principle -- 10 family heads join together to do the many arduous tasks each season requires. Half of the village households have buffaloes, contrasting sharply with others located lower in the delta who had none.

The only other village where I saw similar activity, not quite as advanced but well on the way, was in Langensari. There, too, the PTD and PPL supplemented and helped one another, as can be seen from the high percentage of respondents who answered affirmatively the query concerning Kelompok Tani. They, too, had their local name to the organization, "Serba Guna." The desa-unit also did have one Farm Wives' Club, but with the long distance between some of the kampungs from the others, only those farmers who lived in the kampung in which the Wanita Club was located, acknowledged their wives' membership.

Time does not permit elaboration of this success story. I should say, however, the camat was an ever present and enthusiastic participant in the meetings. His dynamic leadership, added to that of the cooperative work of the two change agents, contributed to the forward impetus so evident in the village.

The interesting question that cries out for answer, is, why? What is it that influences agents of the same organization to be so motivated in their work, while others are not? Certainly, before more are added to enhance the work of the AES, some consideration should be given to answering the foregoing why.

I cannot leave this section without calling attention to the photographs that tell the story of Bangunharja's home-built semi-technical irrigation facility and the production that its local "demonstration" plot has generated. It is not a 500-hectare Citanduy Project grand scheme, but it is paid for and is giving results.

The photographs also call attention to the bridge that isn't over the River Cilonje. Laboriously contributing their labor, over five years, with the necessary engineering guidance having come from one of the appropriate departments, piers have been built. Now the villagers hopefully wait the additional support to provide the steel and cement so that spans can be added to finish their work. While they wait the desa unit has no road during the rainy season.

Individual analysis of the family questionnaires for this village will reveal that many, perhaps most (this awaits tabulation), are sending daughters and sons to Ciamis, Banjar, Bandung, and even in one case I remember, two girls, 17 and 18, are attending a nurse's training school in Jakarta. As I have already recorded in the paragraphs on education, the households heads here have no more than an elementary education themselves. They appear to be willing to make any sacrifice that their children will fare better. This is a community of almost 9,000 population, and it has no secondary school.

I have mentioned the bridge that isn't, and now the secondary school, or junior high school in American terms. It is my opinion that a community that has done so much for itself should have a high priority in the schedule of project implementation programs.

TABLE 2

Membership in BIMAS and Kelompok Tani
by Villages

Village by Number	BIMAS Yes	BIMAS No	Kelompok Tani Yes	Kelompok Tani No
1. Tg. Suyukur, Banjar	8	3	5	5
2. Parunglesan, Banjar	14	-	3	11
3. Langensari, Banjar	18	3	13	5
4. Sengkong, Cisaga	19	6	--	26
5. Bangunharja, Cisaga	19	-	16	3
6. Bantarpanjan, Cimanggu	17	1	9	9
7. Cilopadang, Majenong	12	-	--	12

TABLE 3

Farmer Membership in BIMAS and Kelompok Tani
by Farm Size, Hectare, and Village

Area (ha.) & Vilage	BIMAS Yes	BIMAS No	Kelompok Tani Yes	Kelompok Tani No
-0.25				
1	-	-	-	-
2	-	-	-	-
3	6	2	4	4
4	11	5	-	16
5	1	-	-	1
6	-	-	-	-
7	-	-	-	-
Subtotals	18	7	4	21
.25-.49				
1	2	1	1	2
2	4	-	-	4
3	2	-	1	1
4	6	1	-	8
5	6	-	5	1
6	-	1	-	1
7	3	-	-	3
Subtotals	23	3	7	20
.49-.99				
1	4	1	2	2
2	3	-	-	3
3	6	1	4	-
4	1	-	-	1
5	6	-	5	1
6	6	-	3	3
7	7	-	-	7
Subtotals	33	2	14	17
1.0+				
1	2	1	2	1
2	7	-	3	4
3	4	-	4	-
4	1	-	-	1
5	6	-	6	-
6	11	-	6	5
7	2	-	-	2
Subtotals	33	1	21	13
Grand totals	107	13	46	71

CONCLUSIONS

Returning from the field the 23 December has not given but a few days to tally and to try to draft a report that is no more than a preliminary skirmish with the mass of data obtained. That, of course, will become painfully obvious from a reading of the report, so I would only appear arrogant were I to now try to list in detail the conclusions and implications of the data.

I prefer to let conclusions and summaries remain with what has been said when I digressed to make some whenever analyses of particularly pertinent topics warranted. If it is determined that the questionnaires will be submitted to a full statistical tabulation, that will be the time to draw final conclusions because the statistical supporting material will be at hand for whoever may be charged with the task.

Letting the above stand,I do feel I can and should make one recommendation here in the conclusion. After Mission staff have had opportunity to review what has been presented, unless I have completely misinterpreted what I was commissioned to evaluate, it is my feeling that reading of what is said will justify my suggestion that the PP '76-'77 be reviewed to make sure its implementation will bring into being the start of the development process the Mission staff have had in mind. Whether or not there will be general agreement that I have hit on the correct alternatives to some of the queries raised, is probable. However, I hope I have been near enough on target to stimulate that project proposal's careful reconsideration and, if necessary, re-formulation.

This leads me, then, to the making of one corollary suggestion, and that will be my final word on the subject. The Citanduy Coordinating Committee seemingly has members from all pertinent governmental agencies, including Agriculture. But, I have failed to note in that Ministry's contribution more than a concern over technical, physical, and material matters, sometimes leading to conflicting views on the exploitation or conservation of such resources. That unit, the one most concerned with the human resources in farming, appears to have had little voice in the making of the Coordinating Committee's policy decisions. I am not sure if it is even represented on the Committee, or if it is, whether that representation is but an indirect one.

Almost every recent issue of the two English language metropolitan papers carries stories of seminar talks by government officials which urge its officers to get more people participation into their programs. No one has been more specific than was the Minister of Information and, more recently, the retiring Governor of East Java. Minister Mashuri seemed to be quoting line by line from AIDTO Circular 241. "Development efforts could be successful only if they were carried out through close cooperation between the people and the government" ...(Unless there was this participation, he went on to say, development projects either with or without foreign aid could be completed)"without having achieved the aims of development itself." (Underlining mine)

That is almost word for word what I have said when expressing my fears that the Citanduy Project, as it is now evolving, is on course. There does appear to be solid support for a program that will assure development, not only change.

January 5, 1976