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DEVELOPING AGRICULTURE WITH A WOMEN'S PERSPECTIVE: A CHALLENGE¹

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I. Introduction

The official number of the Indonesian women farmers in 1990 was about 16.55 millions, which is roughly equal to the entire population of Australia. In fact, the true number may be greater since this is the number which have allowed themselves to be counted. These women are of all ages from 10 years old and involved in all facets of agriculture from management to labouring and from sowing the crop to after-harvest processing. Most will be doing work that everyone regards as "women's work" while others will be doing tasks which could be performed by either sex, but, most likely, the women will receive less money. Meanwhile, the number of women estimated in the agriculture population is about three times the entire population of Australia, namely, about 45 millions.

Some hard-nosed economists and rural developers wonder why women commentators have been so keen to have women's activities separated from those of men, after all, doesn't everyone know work is done by workers. After a number of years of involvement with women working both on farms and off farms in Indonesia (and with commentators from elsewhere), I have become a staunch supporter of Polly Hill's (1986) view that

"I must come down firmly in favour of differentiating women's activities for, there being no hope of changing economic terminology, to include them with men would be to subsume them under men" (p. 142)

I believe what many women workers want is simply recognition of the work they do and the importance of it. From the simple act of recognition might stem new opportunities to improve the lot of about half of the population of the developing world at least. The spinoffs from such improvement to the other half may be significant.

Although 17 years have passed since the UN Decade for women, there has been little such recognition let alone a raising tide of innovative participation of women in agricultural development. As a result one can become quite pessimistic about the scope for progress. I begin to wonder if my colleagues and I are just "academics" and other "intellectuals" who are projecting our views of what ought to be onto all women. The apparent lack of response might be evidence that it is we who are out of tune with the what women working in agriculture want. Indeed, there may be no groundswell of dissatisfaction with the present structure of women's employment and the pressure for change may be a figment of our imaginations.

In this paper, I set down my thoughts as I attempt to persuade myself that these are not the reasons for the lack of progress in planning for the participation of women in agricultural development. That is, I believe there are pressures for change and that the pace of change, of necessity, is slow. If for no other reason, returning to Australia has convinced me of the truth of the last of these beliefs.

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This paper is about social issues, possibly even more than economic issues, but you must remember that many Indonesian Universities, including Brawijaya University, have faculties or departments of "Social-Economics". Some of the issues which concern such departments are those which might be termed "lifestyle" issues, including, at times, issues which have implications involving the antithesis of lifestyle. It is not unusual for many of these matters to be branded somewhat sneeringly, as "soft" areas of science. Try, for example, reading the title of this paper without forming a negative opinion about both the quality of science used by investigators in the area and the importance of the topic in the affairs of the world. Often, however, the use of labels like "soft" science is a way of dismissing our analytical weakness when the issue is value-laden, the problem is ill-defined and the variables immeasurable. Twenty years ago, many "main-stream" researchers would have given such a label to the study of the economic values involved in leisure. Now these are recognised as one of the main components of use value i.e. the study of the economics of many types of natural resources.

The above remarks should not be interpreted as a subtle apology for the lack of economic theorising or the dearth of equations in this paper. I want mainly to present problems rather than attempt solutions. If I can get a spark of interest from the predominantly male membership of this Society, my introspection will have been worthwhile and, I hope, you will have received some value from the honour you have bestowed on me.

The paper is organised as follows. First, women's activities in Indonesian agriculture are presented, followed by a description of why women farmers are the missing resource in development plans. Reasons for the absence of a women's perspective then follow. Next, the ways a women's perspective could be accommodated in agricultural development is discussed. Conclusions and implications complete the paper.

II. Women's Usual Activities in Indonesian Agriculture

Writers, artists, anthropologists and tourists are often more attuned to the role of women in traditional agriculture than scientists and economists. Traditionally, women farmers have played active roles both on small farms and on agricultural cash crop estates. Their activities cover all or some of the production stages, from managerial activities including decision making, the actual farm work, the preparatory stage, the supporting services, at the harvest and post harvest activities (see for example Koffi, 1936; Stoler, 1977; Wijaya et al., 1991; Oomen Mij, 1986). In all agriculture sub sectors, such as food crops and cash crops, the women play major roles.

As members of the family, women's activities are multiple. The first one is in the economic sector, either as farm producers, and/or as agricultural workers. In the home, they play roles as home makers, as wives, as well as mothers. Their contribution in the economy of the household is out of question. But, because custom and tradition ascribe the women primarily to perform domestic tasks, the domestic roles receive more emphasis than their roles as income earners. Their work in the labour market may be due to self actualization or due to family needs for survival especially on basic necessities. Among the poor, when the men (whose gender roles are as the "rice winner") cannot earn enough to support the family it is often on the women's shoulders that the daily survival of the farm family rests.

In farming, the practice of sexual division of labour is observed. As dictated by gender roles, usually women are assigned specific jobs which conform to their stereotype. Because women are stereotyped as having patience, neat in habit, gentle, caring, their main jobs in farming are sowing, planting, weeding, other work related to tending the growing plant, and harvesting. In contrast, and by tradition, men's work is the so-called strenuous activities of land preparation, irrigation and carrying heavy loads.

of input and output. The typical women's jobs in rice production, namely transplanting, weeding and harvesting, may have arisen because the jobs are usually repetitive dealing with large numbers of small objects which should be handled individually, required care and gentleness. In transplanting, the women have to bend over to put the tiny seedling in place one by one. Similarly, in weeding in order to be able to pull out the weeds by hand one by one, the women must bend over. In harvesting, the women use a small hand held knife to cut off the mature rice stalk by stalk. An interesting phenomenon is the tendency for new ways of performing these tasks to cause a substitution of men for women as well as a reduction in the amount of labour per unit area. For example, rotary weeders operated by men have tended to displace hand weeding by women and men harvesting with sickles have tended to replace women harvesting with the small knife. While this seemingly general effect could be explained by the relative opportunity costs of male and female labour, I doubt that the explanation in one location at a given time can be generalized in an unqualified way. Indeed, there remain areas where the changes in implements and the substitution have not yet occurred.

III. Women in Agricultural Development: the Neglected Resource

During the course of Indonesia's recent agricultural history, various agricultural development programmes and projects have been undertaken. These programmes, which are found in various forms in most developing economies fall into three categories:

- 1 intensification programmes
- 2 extensification programmes and
- 3 diversification programmes

Regardless of the fact that the women farmers play active roles in agriculture none of the programmes appear to have components addressed specifically to the women farmers. It seems that the core of the problem lies in the failure of the planners and implementers to recognize that women have crucial roles in the field of agriculture. For example, the enormous quantities of vegetables, eggs and chickens which are harvested, transported and sold by women in rural Indonesia are beyond counting.

(1) Planning the Lack of Gender Responsive Planning

The government of Indonesia has endeavoured to incorporate women in development issues into its overall development policies. In 1978, three years after the commencement of the Decade of Women Programme by the United Nations, a particular chapter of the 3rd Broad Guidelines of State Policy (Garis Besar Haluan Negara - GBHN) for the first time included the importance of the roles of women in development. Thus the need to advance the lot of women was explicitly written in the Broad Guidelines of State Policy. This was repeated in 1983's Broad State Guidelines and those of 1988's.

The plan is delineated in the 4th and the 5th Five Year Development Plan, under the Women in Development Section. However, consistency has not yet been established with the sectoral sections, particularly the agriculture sector. Unrecognized by the planners, the agriculture sector hardly mentioned the involvement of women both in (1) its routine activity, for instance, in agricultural extension, and (2) in the agriculture development projects. Despite the traditional role of women in agriculture, a women's perspective within the development programmes is lacking. Many agricultural related programmes such as Irrigation Project, Groundwater Development Project, Upland Agriculture and Soil Conservation Project continue to ignore the women farmers. Indeed, the role of the women

farmers appears to be completely unknown to the planners.

There are several possible reasons why women may be invisible before the policy makers. One speculation is that problem lies in the limited statistical data which is available to them. Effort was initiated by the State Minister of Women's Role and the Central Bureau of Statistic (CBS) to compile statistical data on women (CBS, 1987). The next publication was issued solely by CBS in 1992 (CBS, 1992). Specific data on Indonesian female workers that was generated from the Indonesian Labour Force Survey 1986-1990 gives a reasonably clear picture of the women workers in agriculture. But these data became available only toward the end of 1992, and, although useful, the data related only to rural women homebased workers in the new putting-out system. Unfortunately, however, this analysis was not part of the routine activities of the relevant technical departments; therefore, such data will not be continuously available. That project is an International Labour Organization (I.L.O.) project to promote 'social protection' of the rural women (mostly women farmers) who are engaged as workers under the putting-out system. Unlike the formal workers in the manufacturing industries, these workers are vulnerable because they receive no social protection at all. This is in addition to the working condition in which the equivalent wage from the piece rated payment of the work they accomplished is lower than workers in the formal sector, while they have to share some of the fixed costs.

Understatement of statistical data on women who work on the household farm is another problem that contributes to the women farmers' invisibility. Polly Hill (1986) stated that statistical data on women farmers are likely to be underestimated due to female secretiveness and that, compared to the male farmers, their activities are less susceptible to statistical measurement and systematic observation.

Another speculation is related to the patriarchal values which hold that men are the more 'important' sex. The earliest scholarly writing on the women's role as farm producers was provided over 20 years ago by Boserup (1970). Relatively few of the busy civil servants in the agricultural ministries of developing countries have the time and the language skills to indulge in the luxury of reading the works of those like Boserup, Polly Hill and Ann Stoler (the last being specifically related to Indonesia). Thus there are limited opportunities to seek out, or even accidentally come across, material which runs counter to the common place ethic that the men are the bread (rice) winners, while the women are considered the dependents of those males. Thus the perspective of the planners for planning purposes is based on male centred attitudes, and recognition of the women's role is limited to the domestic roles of home maker, wife and mother. If the dominant religion reinforces these values, it can be expected that the planners will have even greater difficulty in seeing women in other roles. As a result, unless some 'intellectuals' bring women farmers to the policy makers' attention, they are not entered into policies and planning, be it the macro economic policies e.g. monetary policies (Wijaya et al., 1989) or agriculture policies (Wijaya et al., 1993). The women of poor families in their dual activities as workers and house managers, can experience extreme financial difficulties during time of economic adjustment, for example, devaluation. In the absence of welfare programmes to offset such effects, it is reasonable to expect that policy makers, at least, be aware of the social effects of their activities, at best, they might make allowance for these effects in their decision making.

A further example is provided by the era when high yielding rice varieties and rice hullers were introduced (Collier et al., 1973 and Timmer, 1972) which displaced women workers from rice farming. Their access to land resource was also limited (Wijaya, 1986). While the overall benefit of these changes is clear, some forethought about who would be affected and how they would be affected may have reduced some of the human cost of technological change.

¹"Social protection" means such matters as medical benefits, maternity leave, menstruation leave and holidays.

It has been observed that the women and the men are not differentiated by the planners. In the minds of planners, the idea the sexes are equal is closely related to the provision of the 1945 Constitution of Indonesia which states that:

"All of the citizens have equal rights and status before the law and the Government" (clause 27, verse 2)

Although the existing practice has ascribed to men different roles to those of women, the written norms are perceived to prevail in reality. This is not an issue peculiar to Indonesia. In Asia and Pacific regions, non-gender responsive planning is common (Heyzer, 1991). The planners who internalize the gender ideology usually are unaware of the gender problems and the needs of the women to have gender responsive development planning. If women are excluded from planning, there will never be any programme directed to the women farmers. The opportunity for them is forgone.

To alter the way of thinking in Indonesia, a gender consciousness training for the planners and for the representatives from all Departments of the central government was conducted for the first time in October 1991. It is not surprising, therefore, to find that planning with a serious women's perspective has yet to be proposed within the agricultural sector of Indonesia.

(ii) Implementation - the Male Bias, the Invisible Women

The State Ministry for the Role of Women is not an implementing agency. Implementation of any women's programmes is in the hands of the sectoral departments, for example, the Department of Agriculture. Regrettably, however, little implementation is observed in the Agriculture Department. Because there is no inclusion of a women's perspective in the planning, we discovered in our most recent research work that agricultural programmes do not specifically address any women concerns, particularly those related to their farm work (Wijaya et al. 1993).

There is a growing body of literature about the role of women in agriculture in various parts of the world and on mechanisms for getting effective extension advice to those women farmers (see e.g. World Bank, 1992a). Just as a foreign aid worker will use interpreters and find out about the country she is working in, the predominantly male expert agricultural officials from university to village, should be aware of such literature when exercising extension programmes. To be unaware could mean that there would not be any direct contact with a major group of farmers (resulting in biased messages) or they would simply be left out.

An example is provided by some aspects of the Upland Agriculture and Soil Conservation Project in East and Central Java. Part of this project involved the allocation of goats to farmers. Women raise and tend goats, but the goats and the accompanying production advice were given to the male farmers, the officially listed project participants. The women were forced to receive everything secondhand, if at all. This was a surprise to many women but they did not have the assertiveness to challenge the male administrators. Through the SELANI (abbreviated from Sesuai Lahan dan Kebutuhan Petani, meaning in accordance with the land situation and with the farmer's needs), an innovative model of soil conservation farming system, The Rural Development Foundation is attempting to modify the methods of the project as well as assisting women to be more assertive in their dealings with administrators and officials (Wijaya, 1992a).

A somewhat different example of the need to involve women is provided by the same project. Because of the fragile soils of the upland areas there needs to be a ground cover of grasses and shrubs

to protect the soil from erosion. Once established and when carefully harvested, such ground cover can provide fodder for goats. Failure to involve women, the harvesters of fodder, in the programme produced disastrous results in the early stages of establishing the ground cover.

As a result of intervention in the project by the Rural Development Foundation, some development which addresses the women farmers has emerged. After five years of implementation with no women's perspective at all, the 1991 Guidelines for Project Implementation of East Java specifically mention that the women farmers are to be included. This is a first step to mark the recognition of women farmers, even though no implementation is observed yet (Pujlastuti, 1992)

Another example is provided by the Groundwater Development Project for farm irrigation. Because irrigation is perceived to be a male-dominated task, the Public Works' administrators of this project, at least in East Java, have tended to focus their activities on men. This is typical of most projects which are administered by the Department of Public Works. Many women, however, are the water users because they are involved in water management on their own farms when their men folk are working off the farm. They are also responsible for keeping the irrigation ditches free of weeds. Very sensibly, nearly all such women workers have been participating without an invitation in the project (Anonymous, n.d.; Casey, 1989; Gomen-mijn, 1986; Wijaya, 1992) and, after 10 years of implementation, a national workshop to discuss the possibility of including women was undertaken in mid 1992 (Departemen PU, 1992; Wijaya, 1992b). The changing attitude to include women the farmers indicates that strong social and cultural barriers can be broken through.

Presently, some projects are underway where women are being included but the number of such projects is limited. These projects can be differentiated into two types. Firstly, projects that are specifically directed to women, namely:

1. Project for Enhancing the Role of Women Farmers (Proyek Pengembangan Wanita Tani P2WT), and
2. Integrated Nutrition Enhancement Project (Proyek Peningkatan Gizi Terpadu - PGT)

Among the two, the Programme for Enhancing the Role of Women Farmers is the only programme designated specifically to women farmers. It is aimed at increasing the incomes of the family farmers, as well as increasing work opportunities for women farmers. This programme provides training activities regarding the production technology, storage and use of agricultural product to improve the family nutrition. The World Bank (1992 b) reported that due to its poor implementation, no further funding will be available for this project. Recent studies have indicated that the implementation of the project seems to pull women out of the agriculture sector, since they are directed toward off farm income generating activities (Wijaya et al., 1993).

The second type of projects are those that are not women specific, but involve women, such as:

1. East Java Rainfed Agriculture Project (EJRAP)
2. Project for Enhancing Small Farmers Income (Proyek Peningkatan Pendapatan Petani Kecil)

While it does not target women farmers the East Java Rainfed Agriculture Project funded by IFAD (International Fund for Agricultural Development), is designed to cover the entire rural women inhabitants. It has stressed the income generation through post-harvest handling as well as through non-farm income generating activities. As with the project mentioned above, there are elements of directing the activities of the women involved rather than allowing the choice between being a better

farmer under rainfed conditions or a handicraft worker. Regardless of the fact that in 1984 Indonesia ratified the UN Convention on the Elimination of all Forms of Discrimination against Women (CEDAW), this project states unequal compensation payment for equal work for men and women. While in training, male participants are compensated with 3 kg of rice per day but female participants receive only 1 kg (Departemen Pertanian, 1992).

Implementing a programme for women, indeed, is not easy. Even when the development policies for women are specifically addressed, implementation might be obscured. The World Bank noted the following constraints during the operationalization of the Women in Development Policies in Indonesia.

- a. Priorities within macroeconomic management at the national level which limit the attention of senior policy makers to matters involving women.
 - b. Lack of gender-specific data sufficiently disaggregated to permit meaningful analysis of policy issues in terms of the effects they may have on women.
 - c. Budgetary and institutional constraints at all levels of government, combined with a lack of experience in the design of programmes which effectively incorporate women's concerns.
 - d. The need to overcome inertia and sexual stereotyping within government departments as a prerequisite for including women more fully in the Government's mainstream development programmes.
- (World Bank Report, Indonesia, 1992b)

In relation to point d, it is interesting to note that when data on the number of civil servants in the Department of Agriculture are examined, in September 1990 only about 15 per cent were women (CBS, 1992). Further CBS data reveal that almost all of these female civil servants are at Rank II, the second lowest from the bottom. Staff at this rank are hardly at the policy making position. It is speculated that the male officials who internalised sexual division of labour fail to recognize the importance of women in farming.

(iii) Evaluation : the Impact and Consequences

No longer is the agricultural society able to accommodate women who are displaced by new technology in the manner described by Geertz (1963) as agricultural involution. With the new technologies adopted into farming and the growing commercialization of agriculture, many women have lost control over land, resources and employment opportunities (Collier et al., 1973, Timmer, 1973, Wijaya 1986). Demanded by development, the land that used to provide basic needs has been used for non-agriculture activities such as industry, housing, villas, recreational areas, sports areas, including golf courses, and cash crop estates.

As indicated earlier many women labourers in farming have been constantly replaced by mechanization, technology or other forms of agricultural programmes (e.g. within the Sugarcane Intensification Programme, the women labourers are displaced by male labourers, Sukest, 1989). As women farmers are driven out of farming, they might remain jobless with neither resources nor cash. Thus, through the implementation of new technology, particular types of agriculture programmes, privatisation of resources and international market penetration, the women farmers have lost control over resources. Those who seek other means of employment might follow one of two paths if they are brave enough. The first is to work elsewhere in the economy within Indonesia, the second is to work overseas.

In Indonesia, women may be employed either in the formal sector or in the informal sector. In both

sectors, women receive low wages, work long hours and lack social protection. In the formal sector, as is the case in other countries, for example Malaysia (Fernandez, 1990), the women workers receive low payment for repetitive, monotonous work in poor working conditions (Wijaya and Ratnawati, 1992). At times, these conditions afford little dignity to them as humans and can verge on the exploitative. At times one wonders if the lessons of past episodes of rapid economic adjustment, such as the industrial revolution in Europe, are just not retained in the collective human experience.

In the informal sector, women may seek jobs as domestic workers, petty traders, self employment and homebased workers. The invisible work of women in the informal sector has never been taken into account by planners and decision makers. As conveyed during the Meeting of The International Network for Research and Action on the Role of Women in the Informal Sector 1992, this is due to the perception that production in this sector is considered as marginal with respect to production in the formal sector. A study on homebased workers indicates that the women homeworkers in the garment industries, while performing their domestic roles alternately with income earning as workers, receive no social protection, earn low piece-rate payment, work for long hours and they suffer from occupational health problems (Wijaya, 1990).

Women may pursue their way out of agriculture, both legally and illegally, as cheap overseas labourers. From the viewpoint of the national Government, the export of female labour has not only helped the country in reducing its unemployment level, but has also helped in foreign currency earning. The women usually work as domestic helpers in more prosperous countries than Indonesia, such as Singapore, Malaysia, Hongkong, but the majority work in Saudi Arabia. I have found that all the way from the registration stage, through the preparatory stage, training stage, at work, and upon return home, the domestic helpers to Saudi Arabia who shared their life story underwent unfair treatment and exploitation and enjoyed only limited protection, regardless the existing regulations (Wijaya, 1992c).

The gloomy story of the peasant women goes on with the most recent findings during the Asian Peasant Women Dialogue on the General Agreement on Tariffs and Trade (GATT) and the Structural Adjustment Programmes (SAPs). It was argued that the structural adjustments in many countries, particularly those with foreign debt, affected the peasant women as follows:

- a. As home managers
 - depletion of food resources,
 - erosion of the meager income,
 - the peasant women work harder for longer hours for other non-farm generating activities within the home and
 - increase of female-headed households
- b. As farmers
 - loss of land/control of agriculture activities,
 - pushed out into the informal economy, the formal economy as factory workers, prostitution/sex trafficking of women, and
 - exploitation of women workers
- c. As community member
 - added work as community worker and organizer, and
 - provision of health and education services

For many, these results mean malnutrition or even worse, health deterioration not only to the peasant women, but also their families, and possibly unsustainable agriculture (Shiva, n.d.)

IV. Reasons for the Absence of a Women's Perspective

(i). Gender Problems

Those who study women may use various definitions, but in essence gender is:

"... the socially constructed roles ascribed to men and women" (Heyzer, 1991, p.14).

Gender effectively shapes the way of the world, how men and women conform with their sex, and how they act in particular places and times. Included in the long list of dimensions that dictate gender differences are culture, civilization, nationality instruments, duties, responsibilities, verbalization, perception and aspirations (Lerner, 1986)

Directly, as well as indirectly, gender forms the sexual division of labour which, as a general rule, seems to allocate women to the types of work that are labour intensive, complicated, with limited access to and limited control over resources. A culture, embodying a social structure, is created in which the women are placed at a lower status than the men. Gender is expressed both in the home (the domestic sphere), and in the society (the public sphere). It dictates the behaviour, the acts and the way of thinking of the people. Some results are the subordination, domination and even exploitation of women. Unnoticed it occurs in all aspects of life not only in the economy (Mies, 1986, Burton 1985, Heyzer 1991), but also in politics, policies, values, norms, religion practices, language tools and instruments (Illich, 1983, Davies, 1987 and 1990, Matsui 1989, Kamel, 1989; Heyzer 1991). The prevailing relationship between the men and the women is thus asymmetrical, with the women at the more disadvantageous position.

In summary, it is a common practice that sexual division of labour places women in the home only as home-maker, mother and wife, while husbands traditionally perceived as the bread winners are ascribed to work in the public sphere. In the economy, the women are subjected to inequality of access to, and limited opportunities for the control of resources. As occurs in certain developing countries of Asia, Africa and Latin America, researchers indicate that gender asymmetry and the subordination of women remains solidly entrenched even when the societies are modernized (Humphrey, 1987, Mazumdar and Sarma, 1990, Afonja, 1990, Obbo, 1990, Masstah, 1990, Wijaya & Ratna 1992)

(ii) Economic Models

Judge,⁴ from the absence of programmes addressed specifically to women, it seems that until 1987 the development programmes in Indonesia were carried out under the assumption that development effort aimed at farmers and farm workers would automatically benefit all farmers and farm workers. This was not so however, because opportunities, access and control over resources are not distributed equally on women compared to men.

Because of such apparently obvious facts, sometimes I feel that the economic models - which provide the logical framework underpinning the thinking of most planners in developing countries and the staffs of international agencies - either need overhauling or those who use them need a more rounded, cultural education. Because I am not a theoretician, I will confine my remarks to the latter aspect.

We must always remind ourselves that our theories about how the world works are seldom, if ever, prescriptions for action, rather they provide ways of beginning to think about a problem. Most of our theories help to structure a problem and get one started on looking for the sort of data needed for solution. I say "beginning" to think about a problem because once you do more than this it is necessary to be sure of why you are interested in the problem.

If one's aim is to make some predictions about the world then one might proceed in a straightforward scientific way. We would not worry too much about the assumptions of the theory being used and how well they fit the mass of disjointed information that the first cut of the problem is beginning to reveal. We may not be too worried about some of the stranger aspects of the data relative to the theory, rather, we recognise that this is due to the fact that any theory is an abstraction and such difficulties are to be expected when applying it to a particular situation. Our main aim in this situation will be making some predictions which are judged to be acceptable.

Often, however, we are interested not just in making predictions but in understanding the world so as to manipulate it and make ourselves or others better off. In this circumstance we will need to explore the dimensions of "better off", many of which will be immeasurable, and we will be very concerned that the assumptions we make are realistic - after all, we are concerned with problems where peoples' livelihoods, even their lives, are involved.

I make no judgements about the relative "worth" of these two approaches, they are both legitimate and important. I happen to be more involved with the situations where the second approach to gaining knowledge and bringing about change seems the more useful.

Consider, for example, the econometrician who builds a model of food crop production in some Provinces of Indonesia in order to investigate the substitution of capital for labour. The observations he uses are taken from a survey of farmers organised by the relevant provincial agency in, say, 1991. By defining the explanatory variable X_1 as "man-days of labour", he achieves an acceptable level of significance for the resulting coefficient and an acceptable R^2 . The work is published and wins praise as an important example of a new form of estimating equation. This is legitimate, useful science and the world is better for it. We can now make good predictions of rice output in the Provinces, if particular conditions apply, and we have a useful estimate of the marginal rate of substitution of capital for labour as it occurred in 1991. That information, when coupled with the relevant prices, may have some implications for policy formation or extension advice.

It is in these latter aspects, however, that great powers of cultural adaptation may be required when it becomes evident that, say, 60 per cent of the "man-days" were expended by women whose wage rate varies with the time of the year, the task being done and their relationship to the landowner; furthermore, the wage is paid in unthreshed rice, calculated as a percentage of the yield and paid three months after some tasks are performed. Such information may be empty baggage to the econometrician, but to those of us who are concerned with the welfare of the those for whom the capital is a substitute, it is part of the essence of the problem.

I also believe that an understanding of the above complications will aid the model builder, he will come to have a better understanding of that which he is trying to predict. Of all the complications which would plague those who seek to use and apply the above model, the division of labour into X_1 (men) and X_2 (women) would seem to be the easiest to overcome. Once that has been done, tackling the other complications may appear less difficult and the number of asterisks on the coefficients may rise. Remember, however, that the data came from a Provincial survey so the first step towards a more realistic model is to encourage the survey staff not to convert the ideal measure of "women-days" into the spurious "man-days". Alternatively, if you did the survey yourself, such meaningless

conversions would not be made.

V. Conclusions and Implications

The existence of the roles of women in agriculture should be recognized. Taking into account that women farmers are producers and workers in agriculture, any agriculture development programme should include women and men on equal footings. Women farmers are not merely wives and mothers. Exclusion of women from the agriculture development programme means a social and economic loss not only for the family farmers, but also for the nation. Knowing something about the many women are involved in Indonesian farming, I am amazed that women have been involved in development programmes only in their capacity as wives and mothers. Evidence in other countries supports strongly the importance of including women in agricultural development programmes (Chen, 1989).

A small but necessary step in this process is that policy makers should be aware of the gender problem and should be responsive to the need for policy which is gender free. Gender awareness training should be put into practice for those involved in planning and programme implementation. Women's issues are not solely the women's problem. It is the problem of all members of society.

More concentration on people-oriented, particularly women-oriented development by economists rather than production-oriented development is another small step. Indeed, little things like devising indicators of economic development which reflect the well being of women may help the ball to roll. But I cannot stress enough that **women farmers must be classified as eligible farmers to participate in development programmes**. By doing so their chances of receiving a fair share of the economic development pie should be improved.

Economic development, as an abstract thing, is neither good or bad. To those affected by it, however, it is never abstract and it is assessed not just by aggregate quantities of changing types of goods and services but also by the quality of the development. The quality of development lies in the eyes of the beholders and is about the way the pie is divided. For some people in some countries, quality issues may be about the increased opportunities for leisure activities or the ability to preserve the forests, for others it may be about the opportunity to have a job. Each of these groups develops its mechanisms for bargaining and arm-twisting to try to get the best share of those things in the pie that it wants.

Much of the foregoing has suggested that many women in developing countries do not always have the luxury of developing such mechanisms. Indeed, their options for choice may be so limited that they are not aware that their lot could be improved by little more than a change in attitude. Bringing about these changes in attitude is the important role to be played by the women academics and intellectuals who have made the judgement that a major aspect of the quality of development is recognising the importance of women's work. If nothing else other than widening the set of choices for the working women of agriculture arises from the activities of these intellectuals, I believe the world will be a better place. Once that has occurred the rest is largely in the hands of the women themselves and the long process of change can begin.

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