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THE EFFECTS OF THE GREEN REVOLUTION ON RURAL WOMEN

IN THREE SELECTED STATES OF INDIA

by

Poswitha J. Diehl-MacLean

A thesis submitted to the Faculty of
Graduate Studies and Research in partial fulfillment
of the requirements for the degree of
Master of Arts

Department of Sociology and Anthropology

Carleton University

Ottawa, Ontario

April 1, 1986

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submitted by Roswitha J. Diehl-MacLean,
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ABSTRACT

This thesis addresses the issue of women in development, using the example of the Green Revolution in India. This development strategy was chosen to examine the impact of capitalist development on the role of women. As the Green Revolution had different consequences on the population of the wheat-growing and the rice-cultivating areas of India, the northern state of Punjab, and the southern ones of Andhra Pradesh and Tamil Nadu were chosen for the sake of comparison.

The theoretical framework employed is a socialist feminist one, which permits a class and caste specific analysis of the linkages between all aspects of women's work and the economy. In this context, it is also important to investigate the expressions of ideology as they relate to women. The role of patriarchy in India is therefore emphasised.

In terms of conclusions, it was found that, although the Green Revolution temporarily averted an impending food crisis, its long-range effects were negative for the majority of the rural population. A process of proletarianisation took place, turning many middle and lower class farmers into landless labourers. As predicted, this affected the southern states more strongly than the Punjab. The investigation of the consequences of the Green Revolution on women demonstrated that they too were negatively influenced. Upper caste and class women found themselves increasingly placed in seclusion, while the workload for middle and lower class women increased. Female agricultural labourers were furthermore affected by the discriminatory structure of the segregated labour market.

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But the greatest thanks of all are due to my family, especially to Christopher MacLean. He knows all that he did for me. Amongst other things, he is to be thanked for the wordprocessing and proofreading. I would only like to add that he is a living example that patriarchy is not immutable!

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Map of town

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Figure 1

Map of India

CHAPTER I

Introduction

In recent years, women in the Third World have increasingly become a focus for academic interest. This started in the early 1970's when they were suddenly "discovered" by liberal feminists, who first and foremost concerned themselves with the fate of rural women in development. The "developmentalists", as these liberal feminists were also called (cf. Elliott, 1977:4), diligently documented the exclusion of women from development. Although these writers were critical of development theory and practice -- because they realised its differential impact on men and women -- they did not question the putative "benefits" of development itself.

The problematique enveloping the concept of development is complex, and has not remained unchallenged. Socialist feminist writers are critical of development and view it as a euphemism for neocolonial, capitalist expansion which exports the inherent inequalities of Western capitalism. They hold that it is not sufficient to integrate women into the development process, and thus expand their analysis to consider the surrounding socioeconomic and class context.

This thesis explores the impact of the Green Revolution on rural women in India, based on a critical evaluation of the relevant literature. I will argue that the socialist-feminist

view of women in the development process is superior to that of the "developmentalists", both in its analysis of social reality and of required change. The choice of India as the country of study provides an interesting challenge. Firstly, Asian women in development have only recently drawn the attention of feminist academics. While there exists a plethora of studies on Indian women in general, most of these tend to be urban-biased. Thus, although empirical research is needed, it is equally important to assess the existing stock of knowledge on women in rural India.

Secondly, the immense heterogeneity of India offers stimulating grounds for comparative analysis. One faces the task of examining the "status" of women and the development process in the context of the enormous regional, racial and caste differences in the sub-continent. While it is true that "... in India, nothing is typical" (Farmer, 1979:310), it is possible to circumvent this problem. Despite the huge variety in the situation of Indian women, Michael Allen (1982:11) argues that common ground can be found in the

... continuous though developing theme of cultural uniformity -- in part derived from the classical Hindu traditions, in part from the interaction between the bearers of such tradition and a variety of tribal and indigenous peoples, and in part from unorthodox developments within Hinduism itself.

Nevertheless, a certain cultural uniformity cannot account for the diversity in economic conditions across this country. In order to incorporate these material concerns, my thesis will provide detailed regional case studies addressing the

socioeconomic frameworks, as well as class and caste differentiations. In addition, the ideological dimensions will be explored.

As the Green Revolution was implemented differently in the north and in the south of India, the north/south contrast will provide a framework for investigating the differential impact of the Green Revolution on rural women. The northern state of Punjab and the southern states of Andhra Pradesh and Tamil Nadu were chosen to develop this comparison. It should be noted that the women of North India, for example, have a different history from those in the Deccan, as the South is called.(1) This thesis thus addresses "The Effects of the Green Revolution on Rural Women in Three Selected States of India".

The debate begun above condenses into the following questions for inquiry:

1 - Was the Green Revolution essentially a beneficial strategy, as its proponents argue?

2 - Was this development strategy accessible to all classes of farmers?

3 - Given that it has been characterised as "industrial agriculture" (Dahlberg, 1979), what impact did it have on the relations of production?

4 - How did women fare in this process?

(1) Furthermore, while Sikhs dominate the population of the Punjab, the focus of the thesis will be largely on Hindu women. Despite the fact that no studies were found that specify the characteristics of Sikh women, existing evidence indicates that they do not differ much from Hindu women in terms of the effects of the caste system or seclusion. Although the specification of religious affiliation is often omitted in the literature, it was thought best not to further complicate the picture by including Muslim, Buddhist, Christian or other religions.

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5 - Did the Green Revolution have differing results in the prosperous Punjab than in the poorer southern states of Andhra Pradesh and Tamil Nadu? If yes, were women affected to a different degree than men?

In concrete terms, this thesis will proceed as follows. Chapter II will provide an overview of feminist development theories in order to establish a theoretical framework on women and development. The premises of the "mainstream" development strategy of the 1960's ("modernisation") will briefly be examined. The feminist critique charging that it kept women in invisibility will follow. A short review of its theoretical underpinnings will serve to elucidate how certain groups in the societies undergoing development were systematically discriminated against, namely women and the poor.

The shortcomings of "modernisation" as a development scheme were pointed out by the liberal feminists. They often did excellent fieldwork and offered detailed critiques of the detrimental effects of different, though well-intentioned, projects on women. However, as neither the development bureaucracy nor their liberal critics questioned the capitalist development process itself, they were severely criticised by socialist feminists. The debate between liberals and socialists is outlined, and the pro- and contra-arguments concerning the liberal concept of development are briefly discussed.

Next, the contributions of the socialist feminists to the development debate are introduced. Some of them refer to critical development theories, such as dependency and articulation theory, and examine the position of women in the

"periphery" against the backdrop of a situation of general and systematic under-development by the capitalist "metropole". They thus stress that the effects of "modernisation" have to be analysed for society as a whole, before they are examined with regard to women. In this section, the significance of the gendered division of labour on the economy and the domestic domain will be explored, as will the relation of ideology to material forces. The last part of Chapter II then summarises the conceptual elements which should be considered in establishing a socialist feminist framework for the investigation of the effects of development on rural women in India.

Chapter III begins by critically reviewing the existing literature on women in India, and serves to highlight some of the problems one encounters with these writings. As has been mentioned, past studies on women in India tended to focus on middle- and upper-class and caste women, mostly in an urban context. Though later works turned to an examination of rural women and the poor, the majority of these studies adhered to a functionalist framework, and shared the neoclassical underpinnings of the developmentalists.

The subsequent debate on women and technological development in rural India exemplifies some of these criticisms. As shall be seen, the authors involved come to confusing and partially contradictory statements due to their tendency to overgeneralise, and to ignore class and caste specifications. The importance of taking both these determinants into account will become obvious

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in the presentation of Maria Mies' (1982) case study of the lace-makers in Narsapur, Andhra Pradesh. In this context, the ideologies of caste and seclusion (also referred to as "purdah") which condition the position of women, are presented.

The rest of this chapter is then devoted to a discussion of women's economic contributions. An elucidation of the significance of women's "domestic" work for the wider economy is included. This is followed by a detailing of some of the macro data on women's "non-participation" in the workforce, as well as on the distribution of female occupations. After presenting this macro overview, some of the key features of the segregated labour market as it pertains to the Indian context are expounded upon. The occupational structure is considered, succeeded by a depiction of the wage differential between the sexes. This should serve to illustrate the marginal position of women vis-a-vis men in India. The overview of women in rural India will thus serve to establish the framework for the ensuing analysis of the Green Revolution.

Chapter IV deals with the Green Revolution as it has been implemented in India. The Green Revolution can basically be described as an innovation in gene technology which has led to new grain varieties. The first of these were the high-yielding wheat strains, which were initially applied in India in the Punjab. Research later expanded to provide new rice varieties, which were planted on a massive scale in certain favourable areas of southern India. The Green Revolution was hailed as a miracle

which, if well managed, could ultimately eliminate malnutrition and world hunger (Brown, 1970:vii and ix). The question which this chapter poses is whether this optimism was justified. The history of how the technology actually fared in practice is then investigated, using the experience of the three states of Punjab, Andhra Pradesh and Tamil Nadu.

In order to adequately answer the question as to the impact of the Green Revolution, the stated objectives of this development strategy, as well as its inherent ideology, are examined. The analysis will not only deal with an assessment of whether the impending food crisis was averted, but also with the implications of employing such a perspective. The consequences of this development strategy on the rural population are examined. Tangential questions arising from this, such as environmental concerns and the involvement of multinationals, are also dealt with.

Chapter V focuses specifically on women in the Punjab, Andhra Pradesh and Tamil Nadu. Utilising the socialist feminist framework developed earlier, this chapter focuses on the changes which accompanied the Green Revolution in terms of women's economic productivity, domestic chores and reproductive life. Class, caste and ideological differences will be examined. It will be investigated how the findings on the Green Revolution from Chapter IV apply to the female population of the three selected states.

The conclusions of this study are presented in Chapter VI.

and it is at this point that the effects of the Green Revolution on women will be discussed. These results will depend on the detailed consideration of overall socio-economic and cultural factors which follows in the pages below.

References to Introduction

- Allen, Michael (1982). "Introduction: The Hindu View of Women." In M. Allen and S.N. Mukherjee (Eds.), *Women in India and Nepal*. Canberra: Australian National University; Monographs on South Asia, #8:1-20.
- Brown, Lester (1970). *Seeds of Change -- The Green Revolution and Development in the 1970's*. New York: Praeger Publishers.
- Dahlberg, Kenneth (1979). *Beyond the Green Revolution -- The Ecology and Politics of Global Agricultural Development*. New York: Plenum Press.
- Elliott, Carolyn (1977). "Theories of Development: an Assessment." *Signs* III #1 (Autumn):1-8.
- Farmer, B.H. (1979). "The 'Green Revolution' in South Asian Ricefields: Environment and Production." *The Journal of Development Studies* XV #4 (July):304-319.
- Mies, Maria (1982). "The Dynamics of the Sexual Division of Labor and Integration of Rural Women Into the World Market." In L. Beneria (ed.), *Women and Development -- The Sexual Division of Labor in Rural Societies*. New York: Praeger Publishers.

CHAPTER II

Establishing a Theoretical framework

on Women and Development

Introduction

This chapter will provide an overview of development theories as they relate to women in order to delineate a theoretical framework for the subsequent analysis of the effects of the Green Revolution on women in India. First a brief review of the main tenets of androcentric "modernisation" theory, dominant in the 1950's and 1960's, will be outlined. A critique of this approach by "liberal feminists" such as Ester Boserup, who charged that conventional development ignored women and kept them "invisible", will be presented. The liberal feminists propose the integration of women into development as a solution to the problems of modernisation.

An introduction to the Marxist critiques of the concept and process of development will follow, drawing on the literature of dependency theorists. This approach emphasises the importance of the process of capital accumulation in the developed countries in creating the underdevelopment of the Third World. Socialist feminists, drawing on radical critiques of development, stress that the effects of "modernisation" have to be analysed for society as a whole, including women. A key element in socialist

feminist analyses is the centrality of the gendered division of labour in all aspects of social life.

The debates emphasise the relations between theory and practice. On one hand, the functionalist framework to which the modernisation school adheres leads its proponents to perceive development as essentially beneficial. The radical analysts, on the other hand, in examining the relations of production surrounding capital(1), are much more critical in evaluating the impact of development.

It is thus obvious that, depending on the theory which informs practice, different political solutions will be devised. Whereas the modernisationists largely accept the status quo, the critics on the left aim at fundamental socio-economic transformations in order to allow for the development of third world women and men.

As will be seen, liberal theorists fail to account for the discrimination against women in specific historical and material conditions. Given that socialist feminist theory allows for an analysis of the linkages between women's oppression, women's work, and the surrounding modes of production, it is deemed preferable for an analysis of women in development.

(1) This refers not only to the relations of the "traditional factory and office wage labour", but also to the unwaged labour necessary to the reproduction of the working classes (Cleaver, 1976:9).

The "Modernisation" Approach to Development

(a) "Mainstream" Development Theory and Practice

"Modernisation", the development strategy practised in the 1960s, was based on the premise that the Less-Developed Countries (LDC's) would have to follow the example of western "developed" countries in order to achieve prosperity and general welfare. Michael Lipton (in Rogers, 1980:41) refers to this approach as "urban biased". Modernisation implies that capital-intensive projects were emphasised. The growth of Gross National Product (GNP) was perceived as the most important indicator of development, and was seen as a goal of development. As Pin Blumberg (1981:22) points out, "It was assumed that development could be fostered almost without reference to the underlying social structure of the country or its position in the world economy." The benefits of development were supposed to "trickle down": the economic profits achieved in certain sectors were thought to result in greater infrastructural investment, leading to employment opportunities and a host of other gains to all levels of society.

The modernisation approach was firmly based on the functionalist model of a society as a system in equilibrium, whose elements combine to maintain the overall system and themselves (cf. Syme, 1986:4ff). The possibility of conflict -- whether inter-gender, inter-class or inter-racial -- was thus disregarded.

For modernisation theorists, the "developed" state is a

rational one, in which the achievement of status is based on the principle of meritocracy (McCormack, 1981:27). It is thereby implied that women in the highly industrialised societies have realised their full potential, and that the lot of women in underdeveloped countries will improve with modernisation.

The first critics of this assumption emerged in the 1970s. Feminists in Western countries began to document women's inequalities and oppression in the state system. In the field of women and development, the most prominent liberal critic was Ester Boserup, whose book on Woman's Role in Economic Development (1970) was a seminal work which influenced a great many writers concerned with this topic. It will therefore be reviewed in some detail below. Boserup and other liberal feminists -- also referred to as "developmentalists" (Elliott, 1977:4)(1) -- while accepting the overall framework of modernisation theory, were critical of some of its assumptions. They questioned the supposition that the gains of development accrue equitably to both men and women within their own spheres (Whitehead, 1979:10), and go to great pains to document the asymmetric effects of modernisation on women. Their findings are that women are not only excluded from the process of innovation, but the measures implemented in the name of advancement often actually work to women's detriment. The following review of Boserup's book will provide ample substance to this claim.

(1) A term used synonymously with "modernisationists" or liberal development thinkers.

(b) Liberal Feminist Critiques

Boserup was one of the first writers within the modernisation school to criticise the "invisibility of women" in the development process. When her book was published in 1970, the specific role of women had been ignored in most of the social scientific literature, whether it addressed First or Third World concerns. Women were lacking in the analyses of the process of development, and its impact, on the LDC's. Boserup was the first to attempt a cross-cultural analysis of the effects of modernisation in the context of colonial rule on women covering three continents. Her objective was to provide an overview of the part played by women in development, and its effect on women's status. Hence, her work served to generate the awareness that women did not benefit from the effects of modernisation to the degree that men did.

Boserup draws a distinction between male and female farming systems. The female farming system, found in sub-Saharan Africa (Boserup, 1970:16ff), is defined as one in which women play an important economic role. Its features are shifting agriculture, low population density, communal rights to land, and little status differentiation. The male farming system is found in those parts of Asia which are characterised by intensive agriculture, the use of the plough and irrigation. It corresponds to higher population density, individual land titles, and class differentiation.

Stated briefly, Boserup argues that in societies in which a

female farming system prevails, women are viewed as valuable in their reproductive and productive capacities. In societies with male farming systems, women's economic contributions are more or less hidden in the household. Thus, women are valued primarily for their reproductive role. Needless to say, Roserup finds that women's status is significantly higher in the former type of society.

In developing this distinction, Roserup provides a useful tool of analysis. Her coining of the concept of the female farming system was important in dispelling western presuppositions about the working "public" male and domestic "private" female. By emphasising the decisive role women in Africa play in the subsistence economy, she demonstrates why agricultural programmes directed at men often failed. Her analysis thus sheds new light on conventional assumptions with regard to subsistence farming.

Drawing mainly on her experience of societies with female farming systems in Africa, Roserup deals at length with the negative effect of capitalist penetration on the status of women. In her opinion, women were almost always placed at a disadvantage by the changes brought about by colonialism and capitalism. When communal land tenure was eroded and changed to individual land ownership, it was the men who were given the land titles. The discrimination against women in development was found on all levels. While, for example, boys were given a formal education in mission schools, girls were taught home sciences (Roserup,

1970:122). Similarly, agricultural development and innovation projects were directed at men and "the inevitable result is that women were discouraged from participation in agriculture ..." (Boserup, 1970:55). Boserup shows that these prejudicial policies led to a productivity gap between the sexes: while men take part in modernisation (through the cultivation of cash crops, for instance), women continue in the traditional ways. Due to the fact that men are familiarised with new techniques, and are better educated, women lose status.

She also deals with the impact of modernisation on men and women in the rural and urban areas of the Third World. When men take on non-agricultural employment, their wives end up with more domestic and farm work (1970:81). Where industrial development in urban centres draws men to the cities, women tend to remain on the land. Though there are exceptions to this pattern, urban labour markets cater generally to men (1970:99ff). Employment opportunities in the cities for women -- apart from lowly-paid work in the tertiary sector(1) -- are few and far between.

The answer as to why women have a low participation rate in industry lies, according to Boserup, mainly in the fact that employers prefer male workers. Although she does not sufficiently explain the factors at work in excluding women from the industrial and white-collar sectors, Boserup correctly points out that preferences for males creates another gap, that of

(1) In this context, she uses the example of domestic services in Latin America (Boserup, 1970:106ff).

income. She demonstrates how, in "premodern" societies, the sexual division of labour was mitigated by the "vertical", or age-wise, division of labour. What this implies is that the elders of both sexes had authority over younger co-workers. (1) As the encroachment of industrialisation erodes the traditional vertical division of labour, the sexual division of labour becomes more pronounced. Thus, in Boserup's opinion, the penetration of Western economies into the LDC's harms women by favouring men, disrupts the traditional division of labour by sex, and leads to the loss of women's economic power without diminishing their workload (1976:140-141).

Before presenting a critique of Boserup, some other liberal feminist development writers will be introduced. This shall serve firstly to place Boserup within this framework by demonstrating the theoretical parallels. Secondly, despite the fact that they are operating without questioning the status quo, the liberal feminists offer some valuable contributions to the development debate, which shall be briefly outlined.

As with Boserup, most liberal feminists adopt the premise that development has negative implications for women relative to men. Irene Tinker (1976:24), for example, states that "... development has tended to put obstacles in women's way that frequently prevent them from even maintaining what little economic independence they do have." Other developmentalists

(1) For a more detailed explanation of how age hierarchies are transformed into sex hierarchies, cf. Boserup (1976:4-5).

take development planners to task, and demonstrate how deeply engrained male biases are. Projects continue to be implemented which are directed at men even if they are meant to alleviate tasks which were traditionally women's work (Tinker 1976:27).

Many suggestions are made in order to remedy the situation. Hanna Papanek and Barbara Rogers postulate the necessary integration of women into the process of development planning. Rogers goes to some length at documenting the inherent sexual biases of development agencies such as the F.A.O. and U.N. Development Agency. Her solution is thus to integrate more women into key positions in these agencies (1980:48-58). Papanek, on the other hand, is more concerned with an annunciation of the misperceptions regarding women's work (1975:15ff). In this context, the work by Nadia Youssef and C. Hetler is also interesting. They take up the issue raised by Papanek that men are often falsely viewed as the sole supporters of the family and females as dependent. Youssef and Hetler demonstrate that data on the occurrence and frequency of women-headed households in non-Western countries are either inaccurate or unavailable.

Other writers, such as Ingrid Palmer (1979:42-43) expand this criticism and demonstrate in considerable detail how "conventional" methods of data-gathering serve to obfuscate the complexities of women's economic activities. As long as these biased data dominate the field, even well-intentioned projects will not be directed at women as they are not recognised as a target group.

One also hears the complaint that the services provided by women are invisible (Nelson, 1977:13), but, as Papanek (1977:16) stresses, "... no one expects to get along without these unmeasurable contributions." It should be kept in mind that many services which were commercialised in the industrial countries are the responsibility of women in the LDC's. Apart from the fact that development planners have to recognise women's "dual roles" (Tinker, 1976:23) -- or better, their double workloads -- they also have to come to a more comprehensive understanding of what women's domestic work involves. Papanek (1975:200) therefore rightfully emphasises that "... the distinction between 'working' and 'non-working' women ... is an affront to almost all women and should not be used by anyone working in this field ...". To ignore women's economic contributions within the household context leads to the distinction between market and traditional spheres. This, in turn, points to the preoccupation by planners with wage and cash systems.

With respect to practice, the earlier representatives of the liberal school were content to postulate the "integration of women in development" as the solution to discrimination. They failed, however, to examine the implications of certain projects. For example, the authors of an early I.L.O. (1973) study suggest creating employment for women in typically "feminine" sectors such as handicrafts. Later, developmentalists became more critical and acknowledged the "ghettoisation" implicit in such

approaches.(1) They also provided us with detailed and thorough policy analyses which uncovered the fact that even well-intentioned projects are often detrimental to the situation of women vis-a-vis men: whereas it is important to secure poor women a livelihood, the generation of more employment opportunities, as postulated by Ruth Dixon (1978:12-17 and 17ff), is unsuitable where women already suffer from chronic exhaustion due to overwork (Loufti, 1980:51).

While the list of individual contributions to the "women and development" debate could be continued(2), the overview provided above covers the most important issues. A brief assessment summarising the merits of this approach will be presented, followed by a critique.

Critique of the Feminist Modernisationists

The most important contribution of liberal feminist development thinkers was their challenge to the assumption that development benefits all of society. Despite the fact that they accept the basic tenets of modernisation theory and practice, their emphasis on women points to the asymmetry of the impact of development. The liberal feminists demonstrate that modernisation effectively marginalises women by excluding them

(1) Cf. Germaine (1981:4) and Buvinic (1983:25) for a critique of these conservative and largely unproductive projects.

(2) See, for example, Boserup and Liljencrantz (1975), Falmer and von Buchwald (1980), Loufti (1980). With special reference to India, see Dixon (1978), Ahooja-Patel (1982), Mukhopadhyay (1984), and Mazumdar (1982).

from innovation. By underscoring the importance of women's productive activities and of the subsistence sector in general, the developmentalists exposed the "myth of female dependence" (Germaine, in Nelson, 1979:12).

There are shortcomings to this school of feminist development theory, however. Firstly, they tend to overgeneralise, and secondly, their theoretical framework is problematic. As Boserup's book has already been presented in some detail, it will again serve to elucidate some of the problems of liberal feminist analysis.

A first point is to be found in her distinction between male and female farming systems. As the case of India demonstrates, reference to the male farming system serves to obscure the actual degree of women's participation in agriculture. In her treatment of male farming systems, Boserup fails to establish the reasons for the low "status" of women (Benencia and Sen, 1981:295). This is due to the fact that she ignores poor and landless women, who are often forced to seek agricultural employment. This, in turn, points to a broader problem in her analysis: she is not consistent in the class of women she addresses.

Furthermore, while Boserup's usage of the term "status" has been reproduced here, it should be pointed out that the employment of this term is not unproblematic. What is meant by women's status? Of what elements is it composed? Naomi Quinn (1977:182) notes that even where authors take pains to consider the implications of this concept, they tend to lapse into loose

application. Furthermore, using this term as a unitary construct serves to obscure class differences or the fact that gender can have different meanings in different societies (Gujra, 1978:18-19). It leads one to suppose that there may be a unique explanation or simple solution to "women's low status".

The latter point leads to the next problem with all liberal feminists, namely their tendency to treat women as an undistinguished mass. Class differences are ignored, but likewise even cultural and regional variations are neglected. Most of the accounts by liberal feminists tend to be essentially empirical and descriptive, and their underlying assumptions are neo-classical. This means that they basically believe that the effects of putative "modernisation", with its "benefits" of higher education and wage labour, have a potentially positive impact on women. Their "... use of an economic variant of modernization theory ... implicitly accepts the dynamic of capitalist accumulation and the market, and ... improved techniques of production are perceived to be the main instruments of economic development." (Beneria and Sen, 1982: 160) Phenomena such as discrimination are viewed as "market imperfections" (Buvinaic, 1983:22), which can be remedied (by, for instance, integrating women into the development process. What Maria Kelly (1981:269) states of Boserup can thus be applied to all the authors discussed above:

Although she correctly perceived the negative effects that colonialism and the penetration of capitalism into subsistence economies often had on women, she tacitly regards them as anomalies that could be corrected through

the implementation of specialised programs -- programs presumably based on the kind of incisive research that she herself had carried out.

The theoretical ramifications of the modernisation approach to development cannot be left unchallenged. What, for example, are the underlying premises of the demand to "integrate women into development"? Women in most parts of the Third World are omnipresent, therefore the developmentalists' concern with women's invisibility cannot be the major issue. As Marilyn Karl (1983:75) points out, it is not that women are invisible, but rather that development planners are blind to them. While liberal feminists do agree with the last statement, they ignore the fact that women are already part and parcel of the development process. As Lourdes Benencia and Gita Sen (1981: 161) stress, the problems of Third World women do not stem from a lack of integration, but from the fact that they are integrated at the bottom of society.

This leads to a second assumption implicit in the proposed solution to integrate women in development. While for the developmentalists integration was supposed to rectify the problem of women's marginalisation in the Third World, it should be clear that women do not suddenly become equal partners with men. This becomes amply evident if one examines the situation of women in the developed countries. Critical writers, such as Elise Boulding (1981), who links the situation of women in the LDC's with the situation of women in the West, question the concept of integration. She delineates how the power base of women in the

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Western world became eroded with the encroachment of the industrial revolution.(1) While men and women in feudal times were active economically, the newly emerging division of labour sharply separated productive and reproductive spheres, and confined women to the latter.(2) Boulding documents the persisting sexual inequalities in the Western world, and concludes that "This asymmetry should make us question very strongly the appropriateness of first world development agencies of any kind designing development programs for third world women." (1981:13)

Based on historical experience, it is thus obvious that liberal feminists fail to address the reality of working women's lives in the throes of "development", whether in the North, South, East or West. An example of this is to be found in the common reference to women in the LDC's as an "untapped resource". Nici Nelson (1979:2) personifies this problem in stating that "Women must be integrated into the process of rural development not only because simple justice demands that it be done, but also because excluding women means underutilizing a high potential resource ..." [emphasis added]. She fully ignores the fact that most women are already tied into productive and reproductive processes, and are not a free-floating labour resource. The

(1) For a related discussion, cf. Wally Seccome's (1980) article, "Domestic Labour and the Working-Class Household".

(2) This is not meant to imply that there was equality of the sexes in feudal times, however.

proponents of the "human resource" argument tend to ignore that, where women are employed, they end up in "female prone" (Anand, 1983:7) sectors -- that is, the least skilled, least prestigious and least paying. This becomes quite evident if one examines the behaviour of multinationals, which draw on the female labour pool for cheap, "busy-finger" assembly work. As Anita Anand (1983:7) points out, "Paying low wages for long hours in unhealthy and hazardous working conditions, these industries claim they are liberating women."

In sum, the liberal feminist development thinkers fail to examine the interrelationship of all aspects of women's work and the surrounding modes of production. In particular, the linkages between the household and the economy are not theorised. They also ignore the impact of ideology and patriarchy, and their underlying economic effects, on women's "status". Given these failings, it is necessary to go beyond liberal theory, and examine the mechanisms which led to women's subordination in developing as well as developed nations. While Papanek (1981:224) concluded that a theoretical approach integrating the situation of women to the varying economic conditions of production is not yet available, the following examination of the contributions of socialist feminism will demonstrate that her assessment is incorrect and that it is possible to devise a framework linking women's status and productive and reproductive work to the dominant mode of production.

Beyond Liberal Feminist Theory:

-----The Socialist Feminist Perspective

1. (a) Introduction

One reason why developmentalists fail to devise a framework allowing for a broad understanding of women's subjugation is due to their lack of attention to international capitalist relations of production and exchange. These relations are a starting point for socialist feminists; this is nicely expressed in Leacock's (1981:476) words: "The ... obstacle to the advancement of women [is] the structure of world capitalism whereby relatively high standards of living in developed countries depend in large part on profits derived from developing countries."

This led to the growing recognition that the effects of 'development' on women cannot be assessed without analysing the world for society as a whole. Kelly (1981:274) confirms the view that "... women's status and participation in economic and political affairs cannot be fully appreciated without consideration of the overall socioeconomic reality of a nation or country." On the other hand, the realisation that world capitalism places constraints on women's advancement led to the introduction of critical views, such as dependency theory, into the feminist debate.

The theoretical departure which characterises dependency theory is its focus on the impact of capitalist trade relations on the development of a Third World country. In contrast to modernisation theorists, who perceived the problems of

development to be essentially internal matters, the "dependistas" emphasised the manner in which neo-colonial trade links limit the possibilities for a country's development. They point to the "unity of the capitalist world and the fact that underdevelopment emerged not from a lack of capitalist growth but as a consequence of it." (Cleaver, 1976:4) The relations between the developed and underdeveloped regions are described in terms of the "metropolis" and its "economic colonies" (A. Gunder Frank in Waller, 1979:113), or as the link between the capitalist core or center and the periphery. However, while stressing the systematic underdevelopment which accompanies international capitalist expansion, dependency theorists are also important in pointing to the implications for internal class relations. As Peter Evans (1979:29) argues, the consequence of dependent development are a structural deformation of the peripheral economy which results in large masses of unemployed agricultural labour. Furthermore, the impact on class relations is such that the elite is assimilated into the developed economy, from which the masses are excluded, resulting in growing inequalities and the progressive marginalisation of most of society.(1)

Socialist feminists integrated an analysis of women into the

(1) While the dependency thinkers thus advanced the Marxist debate by devising a model to deal with the "internationalisation of working class struggle" (Cleaver, 1976:4), their theory had some fundamental flaws. As it would exceed the scope of this thesis to deal with the critiques of dependency theory, let it simply be stated that one of their major omissions was their failure to account for the specificity of the various modes of production.

radical critiques of development. They set out to devise a theoretical perspective which allows for the study of women under varying historical material conditions. As the discussion ultimately has to be embedded in a capitalist framework, it is necessary for the study of women to start by providing a broad outline of the dominant mode of production. In the case of a developing society one must investigate how capitalist penetration transforms and articulates with the existing socio-economic relations. The analysis thus has to be class specific. Only then can an understanding of how women's labour "fits into" the mode of production be gained. In order to examine the linkages between women's work and the economy, it is necessary to focus attention on the gendered division of labour. It will be demonstrated how it not only conditions the roles of men and women within a society, but also how it articulates with capitalism.

For any analysis of women in household economies, the concept of "domestic" labour is of critical importance, and its significance for the economy will be demystified. For women in the labour force, the structures of the segregated labour market have to be investigated. In particular, the idea of women as a reserve army of labour deserves attention. Generally, in order to clarify the relationship between women's work and the economy, attention has to be brought to bear upon the significance of all aspects of women's reproductive and productive labour. To account for the specific form of the organisation of the

households and its concomitant gendered division of labour, it is also necessary to explore the historical expressions of patriarchal ideology as they relate to the society in question. It is here that one finds the explanation for the persistence and maintenance of the sexual relations of super- and subordination in their cultural and economic forms.

The ramifications of the relations between slavery, indentured labour and capitalist accumulation are complex. Only an analysis of their articulation can explain why women are discriminated against and why capitalism retains "precapitalist" social and productive relations and transforms them.

(b) Ideology, Patriarchy and Reproduction

In this context, it is important to turn to the interplay of patriarchy, ideology, the family form, and the prevailing relations of production in defining women's position. The concepts of ideology and patriarchy are somewhat problematic and thus call for clarification. Both tend to encompass various meanings for different authors. As it would be inappropriate to present the various debates on ideology in this chapter, only a brief description will be provided. As an overview, Jorge Larraín's (1979:48) characterisation of ideology shall suffice: "In capitalist society class differences are negated, and a world of freedom and equality re-constructed in consciousness; in pre-capitalist societies, class differences are rather justified

in hierarchical conceptions of the world." (1)

As this quote suggests, ideology serves to conceal the existence and persistence of hierarchies in capitalist society. In order to account for the survival and maintenance of sexual inequality, however, the patriarchal expressions of ideology have to be examined.

In exploring the concept of patriarchy, one encounters the same ambiguities as with ideology. While some argue that "... patriarchy should be reserved for pastoral nomadic societies as described in the Old Testament, where male power was synonymously [sic] with fatherhood" (Rubin, in Hartmann, 1976:136, fn.1), I agree with Hartmann that such usage is too restrictive. Her own definition describes patriarchy and ideology as "... a set of social relations which has a material base and in which there are hierarchical relations between men and solidarity among them which enable them to control women." (Hartmann, 1976:135) It is thus important to emphasise the articulation of the material and ideological aspects of patriarchy with the prevailing relations of production (Saunders, 1963:46). It should also be noted that patriarchy is not a transhistorical phenomenon, as feminists such as Michelle Rosaldo (1974) claim. Annette Kuhn and AnnMarie Wolpe (1979:9) stress that patriarchy is embedded in certain historical and material conditions, and is not an autonomous or ahistorical phenomenon.

(1) The debate on the definitional possibilities of ideology, or whether the concepts of ideology or ideologies are to be preferred, is too complex to be entered into here.

Thus patriarchy is perceived to be malleable and amenable to historical fluctuations. In addition, its effects are differentiated depending on class positions.

In other words, not all men benefit equally from patriarchy as feminist theory would suggest; often, a particular class of men benefits more than others (e.g. male employers of cheap female workers). In the same vein, not all women suffer equally under patriarchy. Particular groups of women may have more access to status and reward than others ..." (Saunders, 1973:20).

In order to analyse the materiality of patriarchy in its various forms, it is thus requisite to direct attention to the different levels of its expressions. It has to be evaluated "... as a set of relations which interact with other relationships within varying historical circumstances." (Saunders, 1973:44; original emphasis) Thus, the expressions of patriarchy as cultural and religious belief systems regarding women (ideological sphere) are reflected in a specific sexual division of labour (material sphere).

The problematique of the emergence of male superiority has occupied the mind of many. Marxists, anthropologists and feminists have attempted to delineate how women's oppression came about. (1) Friedrich Engels, for example, locates the origins of women's subjugation in the monogamous family, which emerged

(1) In this respect, the equality/autonomy debate is of some interest. While authors such as Rosaldo (1974:17) propose the thesis of women's universal subordination, the concept of sexual equality has been criticised as irrelevant by Ming Caulfield (1981:203). Instead, as Eleanor Leacock (1978:247ff) argues, the notion of autonomy bears more relevance to the situation of women.

concomitantly with the development of private property and economic classes: "It is based on the supremacy of the man, the express purpose being to produce children of undisputed paternity; such paternity is demanded because these children are later to come into their father's property as his natural heirs." (Engels, 1981:125)

Engels related women's status (of equality or oppression) to their role in production and reproduction (the economy and the family). Others (Rosaldo, 1974; Claude Meillassoux, 1973) have reduced the explanation to biological determinism. However, a distinction must be made between grounding women's oppression in their biology, and using biology to construct a cultural concept of female inferiority. This difference is emphasised by Eilish Eisenstein (1979b:50):

The relations of production and reproduction, not an abstracted notion of biology, define the relationship a woman has to herself and society as a reproductive being It is not reproduction itself that is the problem but the relations which define and reinforce it.

The naturalist explanation of women's subjugation is thus refuted. As many authors consequently affirm that men exercise control over women's reproduction and that women's special role in reproduction conditions their economic activities (Beauregard, 1979:203), the concept of reproduction demands further clarification. Feminists turned to the question of how women's

reproductive and productive tasks benefited some men and the given relations of production, and how this was maintained.

While there are diverse interpretations of the concept of reproduction (e.g. Beechey, 1974:124), the distinction of reproduction into

- biological reproduction,
- reproduction of labour power, and
- social reproduction,

was found to be the most useful (Edholm, Harris and Young, 1977:104). Biological reproduction refers to childbearing, but although it constitutes part of the reproduction of the labour force, it should be differentiated from it. The reproduction of labour power involves the tasks which ensure that workers are able to go to work on a daily and generational basis. The fundamental issue of social reproduction refers to the question of "... what structures have to be reproduced in order that social reproduction as a whole can take place ..." (Edholm, Harris and Young, 1977:105). It pertains to the reproduction of class relations and general production over time, i.e. the reproduction of the social formation. Thus, the transmission of private property is only part of social reproduction. In general, social reproduction regulates access to resources and transmits an ideology justifying this access.

Before turning to an exploration of the gendered division of labour in all its aspects, the example of domestic labour will be utilised in order to demonstrate how women's reproduction articulates with the surrounding relations of production. In

this discussion, it should be kept in mind that domestic labour in LDC's contains a whole gamut of subsistence activities which have been commercialised in the highly industrialised countries. Therefore, the separation of production and reproduction is somewhat artificial in the context of the LDC's. (1)

A useful introduction to this topic is to be found in the analysis of Heleith Saffioti (1977). Her central argument is that pre-capitalist relations of production are maintained by capitalism in order to create a flexible reserve army of labour to facilitate exploitation and thus further the accumulation of capital. She elaborates further as follows:

While the industrial reserve army is indispensable to the survival of capitalism in that it makes possible a higher rate of exploitation of the active army of workers as well as periodic expansion of economic activities, this mode of production feeds to a great extent on the asymmetrical relations which it sets up with the pre-capitalist sectors of a social formation's economy. (1977:32-33)

The relevance of this articulation to the situation of women lies in the fact that women are above all involved in activities which, according to Saffioti, are mainly pre-capitalist. The locus of this unpaid female labour is the family, and she stresses the importance of the non-contractual and personalised relations, which stand in contrast to the alienating/alienated relations of capitalism. In this light, it becomes apparent that

(1) This has led some to a rejection of referring to the activities of women in the LDC's as "domestic" (cf. Ethelm, Harris and Young, 1977:104).

the pre-capitalist family structure, and with it domestic work, are instrumental to the persistence of the capitalist system. The services performed in the domestic sphere thus save the economy a great expense, and this explains the active interest in keeping women in a subordinated position. (1)

The interpenetration of colonialism and capitalism often led to a situation where women remained active in the subsistence sector while men found employment in the newly established industries (predominantly in Africa and Latin America; cf. Deere, 1976 and Nash, 1977). Because the contributions of women's labour are indispensable to the survival of their families, "... capitalists need not concern themselves with the reproduction of the class of laborers if workers or their families have access to the means of production of subsistence to partially cover their subsistence requirements." (Deere, 1976:12)

This situation has a number of consequences. Apart from the fact that reproduction is taken care of in the context of the family, it allows the payment of wages to workers which are below the subsistence level. The monies workers in the periphery countries receive do not suffice to sustain the livelihood of a family unit, and thus the free services women perform have the effect of lowering the value of labour power (Deere, 1976:15). Although capitalism appropriates the "pre-capitalist" mode of

(1) Hartmann (1976:152, fn.38) writes of the mystification of housework that, "Capitalism exacerbated the sexual division of labor and created the appearance that women work for their husbands; in reality, women who did domestic work at home were working for capital ..." [original emphasis].

social production, it is transformed in the development process. The gendered division of labour, however, is retained (cf. Saunders, 1983:61). This is true even for capitalist economies, where many productive services were formerly performed in the household, and where the wage rate consequently more closely reflects "... the value of the worker's means of subsistence" (Deere, 1976:11).

Hence, while it is important to underscore the fact that the domestic unit does not fulfill the same "function" in every social formation, the analysis can be expanded from the relations of production in LDC's to those in developed countries. In this context, Wally Secombe (1980:42) advances the debate. He set out to delineate the function of the household in modern capitalism by demonstrating the link between the reproduction (or, in his words, the "subsistence" sphere) and production processes. In applying his theory to capitalism in general, he overcomes the constraints to be found in earlier analyses such as Saffioti's, who shares in some of the limitations of the dependency school. His starting point is the observation that "The logic of capital accumulation enforces an active indifference to the use value limits of production, including the physical limits of particular workers who are expendable as long as fresh labour power can be found." This means that the owners of the labour power, the workers themselves, have to take care of

their needs in their "spare" time.(1) The conversion of their wages into use value takes place in the domain of the private household. While the proletarians regard it as the locus of their independence, in reality the activities carried out in the household serve capitalism in a number of ways. Not only does the household provide such fundamental sustenance tasks as the preparation of nutrition and childcare for free, it also absorbs the non-workers (the young, the old and the unemployed). Although it is intimately connected with the capitalist relations of production, it serves as a bolster against the impact of crude capitalism and thereby aids in maintaining a flexible reserve army of labour. In addition, as the locus of non-capitalist reproduction is deemed inferior, so too are the women who are linked with it.(2) Thus, even where women are employed it is at a lower wage than men. The ideological rationale for this is once again constituted in women's reproductive responsibilities: firstly, as they are perceived primarily as "non-working"

(1) It is interesting to pursue Seccombe's unveiling of the mystification of the proletarian condition which he aptly describes as a "free compulsion".

(2) It should be pointed out that Seccombe's model reflects the experience of the working class. One has to keep in mind, however, that some upper class women are able to appropriate the labour power of other women and are thus "freed" from domestic chores.

housewives, (1) their earnings are considered supplemental. Secondly, due to women's association with childcare, they are in a more restricted and precarious position in terms of entering and remaining in the labour force. This confirms women's inferiority in the eyes of the wage-earning population, and their position is a reserve army of labour. It is therefore in the capitalist's active interest to maintain the elements of the "pre-capitalist" mode of production and with it the structure of sexual inequality. One of the means of maintaining women in a subordinate position is provided by the segregation of labour markets.

In accounting for the persistence of the gendered division of labour, patriarchy plays a central role. This division can be defined as

... a system of allocation of agents to positions within the labour process on the basis of sex, and a system of exclusion of certain categories of agents from certain positions within social organisation on the basis of sex, and lastly a system of reinforcement of the social construction of gender." (Young, 1978:125)

Therefore, within the confines of production, the fact that genders are differentially recruited implies *ex ipso* the exclusion of women from certain positions. Where the household is concerned, the patriarchal ideology sustaining the sexual

(1) How pervasive the ideology of women as housewives is, is demonstrated by cases in which even "working" (i.e. employed, or active in a family enterprise) women perceive themselves first and foremost as housewives. Examples of this range from Canada (Luxton, 1983:29) to India (Sharma, 1980:126).

division of labour guarantees that women accept their otherness and invisibility (Edholm, Harris and Young, 1977:126). It provides the rationale for existing inequalities in terms of deals with domestic work for childcare and justifies the unequal distribution of resources, influence and power within the family.

The two dimensions of patriarchy, its material and ideological forms, are mutually reinforcing: "In part, the collusion of women can be achieved through constant reaffirmation of their exclusion from public status; but in part it is also due to a high level of correspondence between the sex/gender system with the sexual division of labour." (Edholm, Harris and Young, 1977:126).

It should be repeated that the mere existence of a sexual division of labour does not imply a super- and subordination of the sexes. This once again underlines the need for analysis which is specific in terms of region and class.

Conclusion

With this, the framework for an analysis of rural women and the effect of the Green Revolution in India has been established. To begin with, the study will be sensitive to overall capitalist development within the area under investigation. This means that, not only will the consequences of the Green Revolution on agronomic output be delineated, but its impact on the socioeconomic composition of the population will also be outlined. The need for a regional, class and caste specific

analysis is thus clear.

In order to set out a framework allowing for the study of women, the dominant ideology of patriarchy and the expressions it takes for the different classes of women have to be examined. Once the relevant ideological structures of patriarchy are set out, it is possible to analyse its material expression in the gendered division of labour. This, in turn, allows for an inquiry into the linkages between women's reproductive and productive tasks. In this context, the interrelation of the domestic setting with the economy can be investigated. On one hand, the focus will be on the specific relation of the household to the economy. On the other, the "exploitation of non-wage labour" (that is, the significance of domestic labour), and how it articulates with production, will be outlined. Where women are employed, the structure of the segregated labour market also has to be delineated.

Having thus provided the necessary theoretical perspective for this study, it is time to consider the general situation of women in India.

References to Chapter II

- Ahooja-Patel, Krishna (1982). "Another Development with Women". African Association of Women on Research and Development, Seminar, Dakar, June 21-25, pp. 17-23.
- Ananda, Anita (1983). "Rethinking Women and Development". In *Women in Development -- A Resource Guide for Organization and Action*. Geneva: ISIS.
- Beechey, Veronica (1978). "Women and Productivity: A Critical Analysis of Some Sociological Theories of Women's Work." In Annette Kuhn and Ann Marie Wolpe (eds.), *Feminism and Materialism -- Women and Modes of Production*. London: Routledge and Kegan Paul, pp. 155-197.
- Beneria, Lourdes (1979). "Reproduction, Production and the Sexual Division of Labour." *Cambridge Journal of Economics*, III #3:203-225.
- Beneria, Lourdes and Sen, Gita (1981). "Accumulation, Reproduction and Women's Role in Economic Development: Boserup Revisited." *Signs* 7 #2(winter):279-290.
- Blumberg, Rae (1981). "Rural Women in Development." In Naomi Black and Ann Baker Cottrell, *Women and World Change -- Equity Issues in Development*. Beverly Hills, Sage Publications, pp. 32-56.
- Boserup, Ester (1970). *Woman's Place in Economic Development*. New York: Martin's Press.
- (1976). "Women in the Labour Market". In *The Traditional Division of Work Between the Sexes, a Source of Inequality*. The International Institute for Labour Studies, Research Series #21: 1-10.
- Boserup, Ester, and Liljencrantz, Christina (1975). *Integration of Women into Development -- Why, when, How*. New York: U.N. Development Programme.
- Boulding, Elise (1981). "Integration Into What? Reflection on Development Planning for Women." In Rosalyn Dauter and M.L. Cain (eds.), *Women and Technological Change in Developing Countries*. Boulder, Colorado: Westview Press, pp. 9-33.

- Bujra, Janet (1978). "Introductory: Female Solidarity and the Sexual Division of Labour." In Patricia Caplan and Janet Bujra (eds.), *Women United, Women Divided -- Perspectives on Female Solidarity*. London: Tavistock Publications, pp. 13-45.
- Buvinic, Mayra (1983). "Women's Issues in Third World Poverty: A Policy Analysis." In Buvinic, Mayra, Lycette, M. and McGreevey, W. (eds.), *Women and Poverty in the Third World*. Baltimore: The John Hopkins University Press.
- Caulfield, Mina (1981). "Equality, Sex and Mode of Production." In Gerard Berreman (ed.), *Social Inequality: Comparative and Developmental Approaches*. New York: Academic Press.
- Cleaver, Harry (1976). "Internationalisation of Capital and Mode of Production in Agriculture." *Economic and Political Weekly*, March, 1976:2-7.
- Deere, Carmen D. (1976). "Rural Women's Subsistence Production in the Capitalist Periphery." *Review of Radical Political Economy* VIII #1 (Spring):9-17.
- Dixon, Ruth (1978). *Rural Women at Work: Strategies of Development in South Asia*. Baltimore: John Hopkins University Press.
- Edholm, Felicity; Olivia Harris and Kate Young (1977). "Conceptualising Women." *Critique of Anthropology*. III #9-10:101-130.
- Eisenstein, Zillah (1979). "Some Notes on the Relations of Capitalist Patriarchy." In Zillah Eisenstein (ed.), *Capitalist Patriarchy and the Case for Socialist Feminism*. New York: Monthly Review Press, pp. 41-55.
- Elliott, Carolyn (1977). "Theories of Development: An Assessment." *Signs* III, #1 (Autumn):1-8.
- Engels, Friedrich (1981). *The Origin of the Family, Private Property, and the State*. New York: International Publishers.
- Evans, Peter (1979). *Dependent Development: The Alliance of Multinational, State and Local Capital in Brazil*. Princeton: Princeton University Press.
- Frank, Andre G. (1979). "The Development of Underdevelopment." In Charles Wilber (ed.), *The Political Economy of Development and Underdevelopment*. New York: Random House, pp. 103-113.

- Friedman, Betty (1985). "How to Get the Woman's Movement Moving Again." *New York Times Magazine*, May 3, 1985.
- Germaine, Adrienne (1981). "Poor Rural Women: A Policy Perspective." Ford Foundation reprint, pp. 1-17.
- Hartmann, Heidi (1976). "Capitalism, Patriarchy and the Separation of Sex." *Signs* 1 (Spring):137-169.
- I.L.O. (1973). "Programme of Coordinated International Action to Promote the Advancement of Women and Their Interests in Development." In U.N.-Economic and Social Council, *Status of Women*, pp. 3.24.
- Karby, Marilee (1983). "Women, Land and Food Production." In *Women in Development -- A Resource Guide for Organization and Action*. Geneva: Isis.
- Kelly, Maria (1981). "Development and the Sexual Division of Labor: an Introduction." *Signs* VII #2 (winter):268-279.
- Kuhn, Annette, and Wolpe, Ann Marie (1978). "Feminism and Materialism." In A. Kuhn and A. Wolpe (Eds.), *Feminist and Materialism -- Women and Modes of Production*. London: Routledge and Kegan Paul, pp. 1-10.
- Larrain, Jorge (1979). *The Concept of Ideology*. London: Hutchinson University Library.
- Leacock, Eleanor (1981). "History, Development and the Division of Labour by Sex: Implications for Organisation." *Signs* VII #2 (Winter):474-491.
- (1978). "Women's Status in Egalitarian Society: Implications for Social Evolution." *Current Anthropology* XI, #2 (June):247-275.
- Loufti, Martha (1980). *Rural Women -- Unequal Partners in Development*. Geneva: I.L.O.
- Luxton, Mera (1983). "Two Hands for the Clock: Changing Patterns in the Gendered Division of Labour in the Home." *Studies in Political Economy* #12 (Fall):27-44.
- Mazumdar, Vina (1982). "Another Development With Women: A View from Asia." African Association of Women on Research and Development Seminar, Dakar, June 21-25, pp. 65-72.
- McCormack, Thelma (1981). "Development with Equity for Women." In Naomi Black and Ann Baker Cottrell (Eds.), *Women and World Change -- Louify Issues in Development*. Beverly Hills: Sage Publications.

Meillassoux, Claude (1978). Die wilden Erweichte der Frau, oder hausliche Produktion und kapitalistische Wirtschaft. Frankfurt a/Main: Syndikat Verlag.

Mehta, Rama (1976). "From Purdah to Modernity." In R.R. Nanda (Ed.), Indian Women -- From Purdah to Modernity. New Delhi: Vikas Publishing House Pvt. Ltd., pp. 113-128.

Mukhopadhyay, Maitreyee (1984). Silver Shackles -- Women and Development in India. Oxford: OXFAM.

Nash, June (1977). "Women in Development: Dependency and Exploitation." Development and Change VIII (April):161-182.

Nelson, Nici (1979). Why Has Development Neglected Rural Women -- A Review of the South Asian Literature. Oxford: Pergamon Press.

Palmer, Ingrid (1979). "New Official Ideas on Women and Development." I.D.S. Bulletin #3 (April):42-52.

Palmer, Ingrid and von Buchwald, Ulrike (1980). Monitoring Changes in the Conditions of Women -- a Critical Review of Possible Approaches. Geneva: U.N. Research Institute.

Papanek, Hanna (1977). "Development Planning for Women." Signs III #1:14-21.

----- (1975). "Women in South and South East Asia: Issues in Research." Signs I #1 (Autumn):173-214.

----- (1981). "The Differential Impact of Programs and Policies on Women in Development." In Rosalyn Dauber and A.L. Cain (Eds.), Women and Technological Change in Developing Countries. Boulder, Colorado: Westview Press, pp. 215-227.

Quinn, Naomi (1977). "Anthropological Studies of Women's Status." Annual Review of Anthropology #6:181-225.

Rogers, Barbara (1980). The Domestification of Women -- Discrimination in Developing Societies. London: Tavistock Publications.

Rosaldo, Michelle (1974). "Woman, Culture and Society: A Theoretical Overview." In Michelle Rosaldo and Louise Lamphere (Eds.), Woman, Culture and Society. Stanford, Calif.: Stanford University Press.

Saffioti, Heleieth (1977). "Women, Mode of Production, and Social Formations." Latin American Perspectives IV #1-2:27-32.

Saunders, Fileen (1983). "Women, the Economy and the Socialist State: The Case of China." Ottawa: Carleton University, unpublished Ph.D. thesis.

Sharma, Ursula (1980). Women, Work and Poverty in North West India. London: Tavistock Publishers.

Secombe, Wally (1980). "Domestic Labour and the Working-Class Household." In Bonnie Fox (Ed.), Hidden in the Household -- Women's Domestic Labour Under Capitalism. Toronto: The Women's Press, pp. 25-49.

Syme, Hilary (1986). "Constructing a Theory of Women and Development." Mimeo.

Tinker, Irene (1976). "The Adverse Impact of Development on Women." In I. Tinker, M. Bransen and A. Buvino (Eds.), Women and World Development. New York: Praeger Publishers, pp. 22-34.

Whitehead, Anne (1979). "Some Preliminary Notes on the Subordination of Women." In Special Issue on the Continuing Subordination of Women in the Development Process. Sussex: IDS Bulletin X #3:10-13.

Young, Kate (1978). "Modes of Appropriation and the Sexual Division of Labour: A Case Study from Oaxaca, Mexico." In A. Kuhn and A. Wolpe (Eds.), Feminism and Materialism and Modes of Production. London: Routledge and Kegan Paul, pp. 124-154.

Youssef, N. and Hetler, C. (1983). "Establishing the Economic Condition of Women-Headed Households in the Third World: A New Approach." In Mayra Buvino, M. Lycette and V. McGreevey (Eds.), Women and Poverty in the Third World. Baltimore: The John Hopkins University Press, pp. 216-243.

CHAPTER III

Overview of Women in Rural India

Introduction

Before turning to an examination of the effects of the Green Revolution on the population of the Punjab, Andhra Pradesh and Tamil Nadu, an overview of the situation of rural women has to be provided. The framework outlined in the previous chapter will now be applied to the study of women in India.

The chapter will start off with a brief review of the relevant literature, which will serve to elucidate some of the problems one encounters in studies on women in India. To begin with, it was found that commonplace assumptions abound. Some of these reveal the authors' ethnocentric biases, others are due to a neglect of cultural particulars, and most arise out of the writers' tendency to overgeneralise.

As can be seen in the next section on the "women and technological development" debate, more-fundamental shortcomings result from the theoretical perspective employed. For example, many analysts neglect to specify the class context of the women under study; caste is usually ignored, as well. This will be remedied by outlining a framework for a class and caste analysis in the subsequent section of the chapter. As the position of women is not solely determined by socioeconomic factors, the relevant ideological aspects of Indian society will be

delineated, focusing on, the ideology pertaining to caste and seclusion.

Having provided this framework, the range of women's economic contributions will be investigated. This will be followed by a macro-overview presenting statistical information regarding women's labour force participation, and the distribution of women's occupations in rural India, especially in the Punjab, Andhra Pradesh and Tamil Nadu.

Review of the Literature

In examining the literature, one runs into the seemingly paradoxical situation of an overabundance of written works on the one hand, and on the other the repeated complaint by authors that not enough research has been done on women in India, especially on rural India (Epstein, 1981:158; Jain, 1980:1). As Nici Nelson explains, "... though there is a great deal of material available on women in India, very little of that relates to rural areas, and even less to the role of women in rural development." (Nelson, 1979:24)

In considering firstly the writings on Indian women by Indian scholars, one finds that the majority of these urban, upper-class women prefer to deal with themselves -- that is, with city-based, elite women. Behind such promising, broad-sounding titles as Marriage and the Working Woman in India (Kapur, 1970)

or The Conflicting Worlds of Working Mothers -- A Sociological Inquiry (Chakraborty, 1978) are hidden studies which deal exclusively with those middle- and upper-class women who have taken up employment in occupations ranging from office clerks to teachers, doctors and nurses.(1)

Other studies with this urban elitist view are exemplified by Vimla Mehta's (1979) book on Attitudes of Educated Women Towards Social Issues, as well as in The Western Educated Hindu Woman, by Rama Mehta (1970). Some of these studies are plagued by such limited samples that their findings cannot be regarded as representative. Other surveys are biased. Inge Kaul (1973:602), who analyses Promilla Kapur's study, finds that the latter's sample of one hundred female doctors, office workers and teachers distorts the actual prevalence of women in these professions in India. The examples above should suffice to caution the reader as to the representativeness of these, and similar, endeavours. Studies claiming to deal with women of all socio-economic classes, such as Towards Equality by the Indian government (1974), also tend to focus largely upon middle- and upper-class women.

(1) An indication of the conservatism of some Indian scholars is provided by Kapur's book, which deals with the conflict arising out of women's double workload in terms of problems with "marital adjustment". The fact that employment for women is in itself seen as a sign of emancipation by her leaves little room for such critical issues as the locking of women into sexually segregated labour markets.

A popular theme in the literature by Indian scholars is the glorification of outstanding individual women in Indian history.(1) The political prominence of some women should not lead one to the conclusion that women overall play an important role in a country, however. Vina Mazumdar, (1982:68), for example, emphasises that

The fact that a few individual women have acceded to positions of enormous political power has not changed or prevented their marginality in the political process. Similarly, the gains of a minority -- through education, wealth and class -- have generally helped to mask a much more extensive decline of the majority.

Mazumdar's quote thus serves to put these, and the "urban bias" studies referred to above, into the proper perspective.

Another genre in the literature is one which might be termed "anthropological", with its curiosity in norms, ritual and the Hindu cosmology. Descriptions range from broad investigations of women in Hinduism to more particularistic studies of Indian mores, such as marriage, "purdah" or "sati".(2) Of these, it can be remarked that:

The problem is that many South Asian anthropologists have been interested in ritual life and kinship or public sector matters such as caste or village politics. As a result there is more known about variations in style and cultural background of purdah, the ideology of women's position in society, marriage ritual and women's role

(1) Cf. Kaur (1968), Sen Gupta (1974) and Koshal (1980).

(2) The phenomenon of "purdah" refers to the seclusion of women, and will be explained below; "sati" is the practice of self-immolation by widows.

in the family, than about woman's work in villages and what they supply in the way of goods and services. (Nelson, 1979:7)

The point is not to devalue this kind of literature -- after all, most of the authors do provide us with some valuable insights -- but their tendency to ignore issues of practical importance must be noted.

The range of the literature which directly addresses the subject of this thesis -- rural women -- suffers from its own inconsistencies. As already mentioned, uncritically accepted assumptions abound. The most frequently repeated supposition implies that there is a North/South differential in terms of women's freedom and work participation, with South Indian women being the freer ones. The matrilineal societies of Kerala, or tribal societies elsewhere in India, are often seen as the paragon of women's liberty in this country. As K. Saradamoni's (1982) case study reveals, though, the position of women in Kerala has been substantially eroded during the course of this century. The traditional system of land ownership, called "Marumakkathayam", in which women jointly held and inherited land along female lines, has changed. At first, the British colonialists privatised land ownership, and introduced the tenancy system. Then, in the latter half of this century, legislation for the whole of India was passed granting certain land rights to tenants. In this process women's claims were ignored, as men were supposed to be the heads of the household. What appears as progress at first glance in the end

unintentionally served to exacerbate women's situations (K. Saradamoni, 1982:156ff). (1)

It seems that the freedom (2) attributed to women in other, non-matrilineal tribal societies has been similarly overrated. Thus, while Deipica Bagchi (1981:113) finds "greater autonomy" and work participation among all aboriginal women in evidence, this view has been contested. Swapna Mukhopadhyay (1981:112), for instance, cites a study of tribal women of Northeast India who are clearly subservient to their men. In general, it should be kept in mind that no uniform conditions prevail among the aboriginal societies, but rather that one encounters a "varied reality of female autonomy" (Whyte and Whyte, 1982:6).

While these are relevant issues, the most important commonplace assumption concerns the degree of women's work participation and regional location. Ester Boserup (1970:71), for example, states that "... female participation rates in farming are higher in Central and South India than in Northern India and Pakistan." Likewise, Andre Beteille (1975:67) confirms that "In general, [women's] proportion is higher in paddy producing areas of East and South India than in the wheat

(1) See also Ahmad, 1984:74-75.

(2) The loose term "freedom" often used in the literature could describe an array of characteristics, ranging from participation in the decision-making process, relative autonomy regarding work and movement (as opposed to seclusion), and control over earnings. As none of the authors took any pains to elaborate the concept in detail, it is used in all its ambiguity here.

producing areas of the North." This claim will be analysed in depth later in this chapter. For the time being, it should be noted that, even amongst the southern rice-growing states, there are wide differences in terms of female labour participation. The variations do not square well with the uniformity implied by Boserup.

Another conclusion sometimes drawn is that, as poorer women are less restricted and participate in higher numbers in the work force, they are therefore freer than their richer counterparts, especially when the latter are confined to their homes. While this may have superficial appeal to an ethnocentric observer, a look at the reality of poor women's lives reveals how cynical such an assumption is. The work open to them is onerous and badly paid (cf. Gulati, 1982). Numerous authors point out that these women are overworked, as they carry a double load, and suffer from chronic exhaustion (Adamson, 1980:20). Although Martha Loufti (1980:16) states that there is less "sexual dualism" among the poor, this does not imply that men assist in domestic chores. Furthermore, in a society which so openly favours men, women are disadvantaged in terms of nutrition (Gulati, 1982:94). Ursula Sharma (1980:125) points out that Indian women themselves see it as progress when they are relieved from hard work, particularly in agriculture. As such, if poor women are considered free, they are free only to fight for survival -- a dubious distinction indeed.

Another ethnocentric bias is that paid work must be liberating for women -- if not for the poor, then at least for the middle- and upper classes who have access to better jobs. This presupposes, however, that women have a free choice in terms of searching for work, and that they can dispose of their earnings at liberty. For the majority of "working" women in India, none of the above is true.⁽¹⁾ One has to remember that Indian women are perceived as dependent throughout their lives, first subject to the authority of their fathers, and later to that of their husbands. Thus, the men of the families decide if women are to search for employment; and even where women participate in the labour force, they usually do not control their own earnings (Ahmed, 1983:502). Veena Das explains this:

"... The participation of women in the ... economy is not sufficient for either ensuring their control over the products of their labour, or for a high social evaluation of their participation, since this is dependent upon the already existing structured arrangements for the ownership and management of property." (Das, in Sharma, 1980:12)

(1) Of course, there are exceptions. But the women who actually pursue "careers" and perceive their work as emancipating and rewarding are a tiny minority of upper class women.

It is therefore not surprising that women in India do not share the liberal attitudes espoused by their Western counterparts regarding employment.(1) As Kaul's study (1974:91) indicates, even most middle class women claim economic motives as their reason for work.

The commonplace assumptions listed above are a few of the many which abound in the literature. Together, they lead to a confusion which is aptly summarised by Andre Beteille:

Some argue that women enjoy a very high status in India and point to the number of distinguished women in high public office. Others maintain that the lot of Indian women is very hard ... There are equally sharp differences of opinion about the changes taking place in the position of women in India. Some regard these changes as profound and persuasive; they point to the increasing participation of women in public life and to the changes introduced in their legal status. Others maintain that the position of women has changed very little and that Indian society continues by and large to be a male-dominated society. (Beteille in Jain, 1975:61)

Some of these problems are due to the underlying theoretical framework which structures the perspective within which women are analysed. The following debate on "women and technological development", which illustrates the impact of development on rural women, exemplifies the drawbacks of functionalist

(1) Sharma (1980:87) points out for the case of Northern Indian women, that the ideology of purdah teaches them to enjoy their homes as their innate space. Unlike most Western women, it is not a place they seek to escape.

underpinnings. As this thesis examines the impact of the Green Revolution in India, this discussion of technology and women will also be taken up later.

Overview of the "Women and Technology" Debate

Some authors have noted that, while much has by now been written on women and development, the literature concerning itself with the effects of technology on women's lives in the less-developed countries (LDC's) is quite recent. As late as 1979, Krishna Ahooja-Patel (1979:1549-1550) stated that "... women and technology as a dimension in the development process has remained virtually an unexplored territory." Since then, work in this new field has expanded. Obviously, there is a multitude of ways in which technology affects women's lives, ranging from the industrial sector to the crafts and from the agricultural to the domestic domain. Technological change can encompass the substitution of machinery for formerly manual work, rationalisation or other modifications in the productive process, or domestic innovations. In this chapter, however, only changes directly affecting women in the agro-economy will be investigated, as it would be impossible to deal with all the other ramifications. As the premise of this thesis is that technological innovations having an impact on women are not isolated occurrences but reflect changes in the overall socio-economic environment, the debate on women and technological development must ultimately be embedded within the wider

framework of capitalist penetration.

A problematique relating to technology which must now be considered concerns the questions of who controls ~~these~~ innovations and who benefits from them. After all, technological reforms ~~per se~~ should not be condemned, as they have an undoubted capacity to save time and effort, and to increase output. How did women fare in this process in general and with the Green Revolution in particular? Did they benefit, were they excluded from change, or did the technological innovations even work to their detriment? Specifically, what is this type of progress "doing to alleviate the excessive workload of rural women and to improve their lot in terms of income, employment and labour productivity." (I. Ahmed, 1983:494)

With regard to alleviating women's workloads, domestic technology comes to mind first. As various writers remind us, Asian women are overworked and suffer from chronic exhaustion (Adamson, 1980:20; Epstein, 1981:164). It appears, however, that improvements in women's work in the home are not a priority of development planners, and that men rarely appreciate the need for them (Epstein, 1981:164). Elizabeth O'Kelly (1978:41) confirms this by pointing out that irrigation schemes, for instance, take priority over providing drinking water. While she attributes this to the fact that "... perhaps few men carry water", it can also be seen as related to conventional measures of productivity.

In terms of increasing rural output, irrigation schemes are regarded as vital, whereas the supply of drinking water is viewed as a luxury: as the latter does not further productivity directly, it is postponed until the rural household is in the financial position to afford it.

The question arises now as to how other technological reforms in the agro-economy affect women's lives. Generally, the tone of the assessments tends to be negative. Many authors reiterate that development has a negative effect on women, and the same pertains to technological development. Brita Brandtzaeg (1979: 1971), for example, remarks that "During the process of modernisation and technological change in Third World countries, the evidence available shows that in fact women suffer a loss of economic authority and general status due to 'technological displacement'". Several note that development efforts are directed at men, and that equipment innovations favour agroindustry, while the subsistence sector is neglected.⁽¹⁾ Ester Roserup (1970:53) confirms this by stating that:

It is usually the men who learn to operate the new types of equipment while women continue to work with the old hand tools Often, men apply modern scientific methods in the cultivation of crops, while their wives continue to cultivate food crops by traditional methods.

(1) See I.L.O., 1981b:13; Charlton, 1984:87ff; I. Ahmed, 1983:495.

Generally, it has been widely documented how women lose out due to advances in agricultural technology. Judgements of the effect of the Green Revolution tend to be similarly unpromising. Doranne Jacobsen (1976-77:225), for instance, in examining the effects of this technology, agrees with Roserup's findings. Govind Kelkar (1980:11) goes even further by declaring that a systematic "underdevelopment of women" accompanies agroeconomic innovations.

Development is variously claimed to deprive women of employment opportunities (Whyte and Whyte, 1982:210), or to increase their work burdens (Sundar, 1981:868-869).(1) While such statements are not necessarily contradictory(2), it must be repeated that such sweeping judgements concerning the experience of women in development are often not well documented and are generally too unspecific to be of much help. This does not imply that any of the above statements are false. Indeed, evidence of the positive effects of development on women is hard to find.(3)

- (1) In those cases where female work is targeted by technological innovation, this can diminish employment opportunities for women. A case in point is grain processing: "In several Asian and African countries government loan, price support and investment policies help larger industrial establishments processing food items like rice, maize, fish, cane-sugar and bread, and thus threaten the livelihood of rural women." (I. Ahmed, 1983: 496)
- (2) Women can be simultaneously eased out of employment and face an increasing workload in another sector, such as at home. See Sundar, 1981:868-869.
- (3) See Etienne and Leacock (1980:21) for positive examples of the effects of development on women.

The debate summarised above provides a sample of the problems one encounters in the literature. As previously suggested, a number of these can be attributed to their theoretical underpinnings. While some of them are atheoretical in that they are purely descriptive, (1) most adhere to a functionalist framework. This means, for instance, that the authors are concerned with the consequences of fluctuations in women's "status" -- a widely used, but seldom defined concept -- on the family, certain societal institutions or on the country as a whole. One author, noting the low participation of women in education, emphasises the fact that uneducated mothers will be "bad" for society, unable to intelligently assist their children's development, and will therefore harm society in the long run (cf. M. Mukhopadhyay, 1984:33). While this extreme view is not heard any more, a writer such as Asok Mitra categorically states that problems of insufficient education (concomitant illiteracy) and low female employment have "... contributed to a progressive deterioration in the value, status and role of our women to a point where it constitutes a major stumbling block to the social and economic transformation of our society, to greater productivity in the economy as a whole and to better distribution and consumption" (Mitra, 1978:2). Although the importance of education should not be downplayed, this view of women as a "human resource" ignores the complex reality of rural women's

(1) Some of the works which have the declared objective of simply amassing information include Visaria (1983) and Bagchi (1981).

Lives. As M. Mukhopadhyay's (1984:35ff) study demonstrates, literacy drives are ineffective in areas where women are too overworked to find time to attend classes.

The fundamental problem is thus that women tend to be viewed as an undifferentiated mass; class distinctions are ignored. The authors of an I.L.O. study (1981a:11) on rural development and women in Asia confirm the impression that gender-related issues are rarely integrated into a class analysis in the Asian context. The importance of synthesising the issues of class and gender will become obvious when the differing effects of the Green Revolution on women of varying classes are depicted. Caste is also an important factor in India. Thus, the next section will set out to explore the interrelationship of caste and class in rural India.

The Class/Caste Debate

While the issue of caste and class is not easily resolved, it is necessary to clarify the relationship between the two concepts in order to distinguish the roles they play in the daily lives of the Indian people. Some Marxist analysts of rural India circumvent this problem by omitting caste, and by focussing only on the rural working classes (cf. Cleaver, 1976) or by equating caste with class (Orans, 1968:877-878). A closer investigation shows, though, that the two terms are not synonymous: the

dominant caste in a given location is not necessarily of the highest class. Pauline Kolenda (1978:38) points out that early Western scholars " . . . were mistaken in suggesting that the Brahmins' religious suzerainty was also a political dominance."

To use "caste" and "class" interchangeably leads to a confusion which is aptly summarised by F.R. Leach (1960:1):

"As an ethnographic category [caste] refers exclusively to a system of social organizations peculiar to Hindu India, but as a sociological category it may denote almost any kind of class structure of exceptional rigidity. Such double usage is unfortunate; the tendency to stress the 'status-group' component of caste prejudices the whole question as to what is the essential sociological nature of the Indian phenomenon."

Leaving the "essential sociological nature" of India aside, the question remains as to how caste is to be understood. This is not the place to review the various functionalist, structural functionalist or more critical interpretations of the caste system.⁽¹⁾ Instead, some of the key features of the caste system will be elicited:

- 1 - Castes are endogamous;

(1) A number of writers adhere to the Durkheimian interpretation of caste as an "organic system" (Leach, 1960:5). One proponent of this school, Louis Dumont, accuses more critical voices of being "socio- and ethnocentric". For him, there is a "holism" in this system, a concern with the welfare of all its members (Dumont in Kolenda, 1978:3). More critical writers, such as Kingsley Davis and Gerard Berreman (in Kolenda, 1978:3), or Andre Beteille, emphasise the rigidity and social inequalities of the caste system. Beteille (1969:229), for example, notes that "In effect, caste has come to be regarded as the prototype of any system of rigid social inequalities."

- 2 - caste membership is ascribed by birth;(1)
- 3 - hierarchical ranking determines the position of castes to each other and also exists within castes (subcastes);
- 4 - traditionally, each caste followed an occupational speciality;
- 5 - members of different castes are restricted with regard to commensality: the principle of ritual pollution characterises many of the avoidances between members of different castes;
- 6 - caste as a system is operative within a defined locality (a single village, or a cluster of villages).

Of course, it has to be kept in mind that this is an idealtypical characterisation of castes, and that many of these features have been eroded away by the encroachment of industrialisation. To choose one example: the commercialisation of the many services which formerly were the responsibility of certain castes has led to a breakdown of occupational ascription. As some case studies demonstrate, some "... villages are becoming depopulated as their contingents of artisan and servant castes leave for town." (Karve, Randive and Mencher in Kolenda, 1978:53). Others change their occupations to work available in rural areas, and turn to agricultural labour. In the case of Uttar Pradesh, a northern state, 43 percent of originally non-agricultural caste members were found in farm-related activities (Blunt in Kolenda, 1978:52). For some, the erosion of the occupational structure, and the avenues opened by education and new careers (such as the military and the civil service) seem cause for optimism: "... social inequalities based on caste are much less important now than fifty years ago." (Beteille, 1969:229) But a few individual

(1) It should be noted though that the principle of hypergamy allows women to ascend into a higher caste through marriage.

successes should not lead one to overestimate this supposed mobility. The vast majority of the low caste peasant population seems to have suffered from the introduction of market relations in agriculture. The spread of cash crops and monetary relations led to the breakdown of the traditional "jajmani" (patron-client) system. Landlords no longer feel bound to time-honoured obligations and traditional tenant rights have been revoked in areas where the cultivation of additional land implied increased profits for the owners. Evictions resulted, swelling the ranks of landless labourers.(1)

This trend, however, has little to do with caste membership. As Leach (1960:6) recognised:

"... a major section of the population consists of landless labourers who stand at the bottom of the social hierarchy ... But their economic sufferings are not due to their position in the caste system. The low castes suffer economically not because they are low castes but because present conditions have turned them into an unemployed working class." (emphasis in the original)

The large number of studies on rural women in India which neglect to specify caste and class membership are thus conducive to distortion. Unfortunately, the problematique of applying a class perspective to the rural Indian context has not yet been satisfactorily resolved. What is lacking is a specification of the differential access to the means of production. Within the confines of this thesis, justice to the complex interaction of

(1) This will be discussed as it relates to the Green Revolution in the following chapter.

the relations and forces of production cannot be done. Therefore, I will follow Gita Sen's (1982:29) example of defining class by reference to the access to land, other means of production, and wage incomes. That this is adequate for my purposes can be seen from the example of Francine Frankel's (1971) study on the differential impact of the Green Revolution on farmers in selected states in India. Without ever referring to the term, Frankel provides a class analysis, and her distinction between large, medium and small farmers (the latter including tenants and landless labourers), can be utilised here. Thus, large and medium farmers form the upper and middle classes, respectively, whereas the rural lower class is a composite of small farmers, tenants and landless labourers. While this definition may be criticised as simplistic, it must suffice in the absence of more sophisticated models. It also has the advantage of following the perception of most relevant analysts on rural India (cf. Mukhopadhyay, 1984:48-49; Frankel, 1971).

The problem is now to attempt to fit women into this debate. As Maitreyee Mukhopadhyay (1984:48) points out, "For any assessment of the problems of women's economic role to be meaningful, a categorisation [sic] of female workers according to their socio-economic status is necessary." As has been outlined in the theory chapter, women's "socio-economic status" cannot be defined independently: women are members of households which differ in their access to the means of production. Thus, a woman's class and caste membership are determined by the position

of their families. This is not to gloss over intrafamilial inequalities, however, as "... rural households are not harmonious, egalitarian social units, but hierarchical structures embodying relations of subordination and domination based on gender and age." (Sen, 1982:29)

~~Women~~ Ideology and Patriarchy

In order to understand the persisting inequalities facing women -- whether in regards to caste or social position -- it is necessary to investigate the relevant aspects of ideology. An understanding of ideology and patriarchy is of fundamental significance firstly in determining the social esteem in which women are held. Secondly, ~~it is here that one finds an~~ expression of women as second-class citizens in Indian society. The problems surrounding both concepts have already been explored in the previous chapter, and will not be reiterated here. For the purpose of this section, it should suffice to state that, whereas ideology should not be reduced to religion, the focus will be on religion as a vehicle for ideology and patriarchy.

Literature dealing with ideological expressions on women's position in Indian history ranges from Altekar's *The Position of Women in Hindu Civilization* (1962), and S. Radhakrishnan's (1956) *Religion and Society*, to S.C. Dube's (1963) "Men's and Women's Roles in India" and Lilly Jain's (1978) "Die Indische Frau im

Verlauf der Geschichte" ("The Indian Woman in the Course of History"). These sources are similar in depicting how the considerable freedom women enjoyed in the Rigvedic period was slowly eroded until it reached an all-time low shortly before the advent of the British colonisers. The fundamental problem with such historico-ideological studies is underlined by Srinivas (1977:223): "The corpus of literature [on women] is, however, a heterogeneous one, and it abounds in inconsistent, if not contrary, ideas, rules, beliefs and practices." Likewise, the authors of *Towards Equality* confirm that "There is no overall appraisal of a woman's personality in the lore of Hinduism." (India, 1974:40)

What then, one wonders, compels the above authors to gloss over these inconsistencies and to glamourise the picture of Indian women in ancient history? An answer to this is provided by Mazumdar, who argues that these writers are part of a nationalist phenomenon. She states that:

This ... ideology gave birth to a spate of literature that projected the extraordinarily high status enjoyed by women in ancient civilizations, the prevalence of the mother cult, female deities and the ritual rights of women in most Asian religions, as well as the statements to be found in most scriptures regarding the sanctity women's lives, their dignity and chastity. (1982:66)

One can describe this "cultural nationalism" as a reflection of the identity crisis of the newly-emerging state, in which the Indian past and its values are sought after. As such, these authors are basically conservative; in their view, all that is

needed to improve the situation of women are legal reforms, acknowledgment of their rights, and access to education (cf. Altekar, 1962:361-368). Lilly Jain (1978:116) even goes so far as to state that "In regard to their rights, Indian women are among the privileged in the world today." (1)

How iniquitous this assessment is will become obvious when the ideological ramifications of seclusion are considered. Where "purdah" (as seclusion in India is called) (2) is concerned, perceptions are often clichéd. Although much of the literature aims at explaining this phenomenon either in historical or functionalist terms, it ultimately emphasises purdah in its "otherness", as something foreign, one could almost say exotic. (3) While the practice of purdah shall by no means be defended, an approach such as Ursula Sharma's (1980) is much more commendable in furthering our understanding. Sharma, in her

(1) "Heute gehoeren die Inderinnen in Bezug auf ihre Rechte zu den privilegierten Frauen der Welt." (my translation) While it is beyond the scope of this review to examine the legal rights of Indian women any further, it should be pointed out that it is naïve to make a statement like this without investigating what it actually means for women. To provide an example: rights to inheritance are irrelevant for poor women whose families do not own any property.

(2) "Gosha" in the south.

(3) Sometimes, purdah is viewed with a horror otherwise reserved for such practices as footbinding: "On the floor, alongside one wall a gathering of people crouched silently together in the gloom, almost unmoving. Soon we discerned that all were women, girls. They sat quietly in their long, full dresses, a few with their arms drawn around their bodies All of them sat with their skirts resembling tents over the round baskets of embers that they had between their knees for warmth. This was their home, their life Idleness. Waiting" (I. Brattstroem, in S.I.D.A., 1974:4)

fieldwork on two villages in the Punjab and Himachal Pradesh, observes that women are hesitant to move in what is commonly -- though not consciously -- defined as "male" space. In North India, one of the male sanctuaries is the bazaar. If a woman has to enter this market by herself, she will do so with considerable uneasiness. Regarding women's insecure presence in male-defined spaces as a characteristic of most societies, Sharma suggests that this can be seen as a continuum, with the Western woman venturing into a pub, for example (where her presence is met at least with some disapproval), (1) at one end, and the seclusion of women in the confines of a home, sometimes only a room, at the other extreme. This example has been expanded upon at some

length/because it illustrates the kind of approach which would be desirable. Studies emphasising the common element of cultural expressions are needed, rather than concerns with the historical emergence or function of a particular societal institution.

Purdah(2) is a complex and highly variable phenomenon. Essentially, it can be described as "... the physical segregation of living space, and the covering of the female face and body." (Papanek, 1982:9) Whereas the adherence to purdah serves to maintain:

- certain moral standards as specified by the cultural context;
- the exclusion of women from public life;
- a rigid sexual division of labour; and
- the mutual dependence of the sexes (Papanek, 1982:7)

(1) The fact that some women claim to do so without qualms does not invalidate this argument.

(2) Ethymologically, purdah means veil or curtain. (Kaul, 1974:34).

it is, however, extremely difficult to find a consistent definition of seclusion. Instead of attempting to integrate its various expressions into a probably ill-fated characterisation, its ideological rationalisation will be explored. For this purpose, it is necessary to examine religious and normative statements regarding the perception of women. Despite the already-mentioned variations in the statements on women in the literature, a dualistic pattern emerges. On the one hand, the woman is considered "... fickle-minded, sensual, seducer of men; given to falsehood, trickery, folly, greed, impurity, and thoughtless action; root of all evil; inconsistent; and cruel." (Towards Equality, 1974:40) As mother, however, the woman is highly venerated: "There is no guru like the mother." (Ibid.)

Michael Allen (1982:5) points out that though beliefs of woman as both polluting (due to her association with childbearing and menses) and pure (due to her maternal role) appear contradictory, they serve to devalue women. When "polluting", women have to be restricted from contact with others; when "pure", they have to be protected from potentially polluting encounters. Both beliefs thus justify male control. Allen restricts this interpretation to male influence over women's fertility. Given the considerations noted in Chapter II regarding women's reproduction, his view should be expanded to include the whole range of services provided by women. In this light, it becomes clear that purdah allows men to appropriate women's labour power (cf. Beneria, 1979:207-208). Women in the

home, unable to deal with the outside world, are therefore dependent on men as mediators. Seclusion thus plays a fundamental ideological role.⁽¹⁾ Furthermore, it should be noted that the above argument pertains to upper- and middle-class rural women. Many lower class women, especially the poor, have to work, thus they cannot be placed in seclusion.

The ideological linkage between the phenomenon of caste hierarchy and seclusion is once again based on the duality of pollution and purity. As Kolenda (1978:62) states, "The principle of purity-impurity pervades and partly explains the hierarchy of castes." All beings and substances are ranked in a descending order, from pure to polluting. The system of ritual avoidances between pure and polluting caste members explains why women, who by their very nature are associated with impurity, are discriminated against. As Yalman (in Allen, 1982:6) has persuasively argued, "In India, and indeed wherever, purity is the principle idiom of status differentiation, there is certain to be a major preoccupation with the maintenance of female chastity. This is especially so in India where the purity of the caste is a direct function of the purity of its womenfolk."

(1) It must be underlined that purdah is not a static concept. Apart from its being amenable to historic and economic influences, it also has varying significance during a woman's life-cycle. Young Hindu girls are free from restrictions, but are gradually socialised into the acceptance of their lot by a host of religious prescriptions. Women's only possibility in attaining salvation ("mukti") from the wheel of reincarnation is by following the feminine ideal of humble servitude and diligent fulfillment of their duties (Kaul, 1974:34). Post-menopausal women, however, are allowed much greater influence and mobility (cf. Sharma, 1980:45).

The necessity of integrating factors relating to class, caste and seclusion is demonstrated by Maria Mies' case study of the lace makers in Narsapur, Andhra Pradesh. As will be seen, different sanctions operate for different castes, and, as disrespect for the norms -- in this case seclusion -- implies loss of status, they are usually adhered to, as long as is feasible.

The Lace Makers of Narsapur

In her study of the lace makers of Narsapur, Maria Mies (1982) describes how the industry developed, starting off as a charitable enterprise controlled by women. A Scottish missionary's wife was supposed to have started this scheme as a measure of famine relief which could provide work for Harijan ("untouchable") women. As the export of lace proved to be quite successful, men began to take an interest in it, and turned it into a commercial venture. At first the lace making business was concentrated in the hands of the Adi Andra caste (the local name for untouchables). The labour process was divided, and was organised along the lines of a putting-out system. The men focused mainly on the export side, but when the industry experienced a boom in the early 1970's, women were pushed out of marketing completely and from then on were confined to the periphery of the productive process. As Mies (1982:6) puts it,

this "... shows the classic way in which capitalist production relations are being built upon the backs of women as workers and housewives."

At this point, members of a higher agricultural caste, the Kapus, who had at their disposal profits gained from the Green Revolution, became interested in investing in the lace industry. Over the years, the caste composition of the lace workers and exporters changed. The Kapus began to displace the Adi Andras, and today dominate the trade and production of lace in this region. This does not imply, though, that the Kapu lace workers are among the better-off women. On the contrary: the commercialisation of lace making, and women's concomitant loss of control over their products, gradually exacerbated their situation, and today they are grossly underpaid and severely exploited. Due to the isolating structure of the putting-out system, the workers cannot organise and therefore have no bargaining power. Their effective exploitation is further facilitated by what Mies (1982:11) calls the "housewife ideology": firstly, due to their concealment in the household, women are not viewed as workers(1), and secondly, due to the ideology of seclusion, women are kept in this invisibility. While other poor women are found working in the fields where they obtain higher wages, the Kapu women scorn this work: "farm labour

(1) A side effect of this is that, despite the fact that "95 percent of the foreign exchange earnings from the export of handicrafts ... came from the lace industry of Warisapur" (Mies, 1982:9), these women, who number between 150,000 and 200,000, do not appear in any statistics as workers.

carries a low prestige, and they also fear the loss of status which goes hand-in-hand with the abandoning of seclusion. Thus, Nies (1982:13) declares that:

"The tenacity with which women cling to these oppressive norms, because they are symbols of a bygone higher status, even when they are virtually starving is the ideological and psychological base on which a new phase of exploitation can be built, this time in the service of surplus accumulation on a world scale."

While these women belong to the same class of pauperised peasants as the agricultural working women, they are separated by caste barriers. The presentation of this case study thus underscores the importance of not simplistically equating caste with class.

Rural Women's Economic Participation

Due to regional and cultural variations, it is also exceedingly difficult to offer an overview of women's work patterns in agriculture vis-a-vis men's. In the literature, one finds only case studies or scattered references, which do not provide a coherent picture.⁽¹⁾ Different socio-cultural, climatic and economic conditions bring forth different types of women's work patterns and labour participation rates. Not only are there regional variations in the degree of women's involvement in agriculture, the tasks assigned to them differ

(1) Srinivas (1977:225), for example, states that "... weeding, like transplanting, is exclusively women's work, while harvesting involves a more complicated division of labour among the sexes." One can assume that he refers to paddy cultivation, as wheat is not transplanted. Such references are not very helpful in attempting to elicit an overview.

depending on their caste and class membership. Even within the confines of a single state, the sexual or caste/class division of labour can vary with each district or crop. In broad terms, women's work in agriculture can be described as follows:

In general ... plowing and heavy irrigation are men's tasks; sowing may be restricted to men or women or shared; weeding and transplanting are women's tasks; harvesting is frequently shared; and most of the postharvest operations (threshing, winnowing, drying, husking, cleaning, storing) are performed by women. Women also care for milk animals and poultry, wheat fodder and firewood, grow small vegetable gardens, carry water, repair the mud and thatched houses, weave baskets and mats for the family's use, prepare and preserve food, and sell wares in the market if they are not observing purdah. (Dixon, 1982:377)

As suggested by the above, reproductive and productive tasks are often interwoven. This is confirmed by Sharma's (1980) case study of women in a Punjabi village. She points out that even where rural women spend more hours per day working in farm related activities than in domestic ones, they still tend to report their occupations as housewives (Sharma, 1980:128). While for most this is a sign of the effective pervasiveness of the "purdah" ideology, Sharma (1980:130-131) points out that for poor women, there is in fact no real distinction between farm and house work (excluding the women of landless labourer families, who are forced to hire themselves out). The distinction between "work" and "housework" emerges only in capitalist farming

families, where it tends to coincide with the sexual division of labour.

While it is commonly accepted that the women of large landowner families do not participate in agricultural activities⁽¹⁾, Ruth Dixon's assurance that they also abstain from domestic work, which is supposedly done by servants, seems overstated. This claim can be viewed as a perpetuation of an "androcentric" bias: women's work in the home is invisible, and therefore undervalued. Robert and Pauline Whyte (1982:4) concur with this, and point out that even where women are secluded, their role in processing agricultural products, for instance, is vital. Srinivas offers a more valuable insight into the division of labour and the structure of the relation between the sexes by stating that:

"There is a clear and self-understood division of labour between the sexes among agriculturists; and this includes both activities inside and outside the household. Each set of activities is seen as supportive of the other, and more significantly, agriculture is a family activity ..."
(Srinivas, 1977:225)

This pertains to all classes: no matter the degree to which women participate in agriculture, they are always the ones solely responsible for all domestic work and childcare. While the latter may be the more or less exclusive domain of upper class women, the women of what is referred to as "owner-cultivators" or

(1) There are cases of high caste women participating in the supervision of agricultural activities (see Sharma, 1980:131).

"small landholders" additionally engage in agricultural labour in family plots, at least during the peak season. Among tenant families, women are even more involved in agriculture, but still tend to work only on what is designated as family land. The women of landless labour families have to hire themselves out, whether in agriculture, construction work, services, or whatever else may be available.

Macro-Overview of Rural Women's Work

To complete the overview, some general statistics on rural Indian women can now be presented. As will be demonstrated, because of definitional problems, and even changes in definitions between decades, Indian census data as they relate to women have to be interpreted carefully. After presenting the available statistical information, the conditions of women's work will be delineated. Here the focus will be on the segregated labour market.

After presenting an overview of the biased data concerning women's "non-participation" in agriculture, figures from 1961 and 1971 dealing with the distribution of women's occupations will be provided. Some of the key features of the segregated labour market to which women in India, as elsewhere, are subjected, will be presented. The first aspect of this which is covered will be occupational segregation, with special emphasis on women's position in agriculture vis-a-vis men's. The second part will

present a brief discussion of the wage differential between men and women, including some case material. In this manner, the context for an overview of women's work participation rates in rice and wheat growing areas of India will be provided.

Tables IIP.1 and III.2 present some figures on women who are outside the labour force.

Table III.1: Indian Non-working Women (Classified by Main Activity, 1971 (figures in thousands)

Main activity	No. of females	% of total
Full-time students	20,664	8.9
Household duties	118,404	51.0
Dependents and infants	91,722	39.5
Retired, rentiers and persons of independent means	477	0.2
Beggars, vagrants, etc.	275	0.1
Inmates of penal, mental and charitable institutions	37	...
Others	526	0.2
Total	232,075	100.0

SOURCE: ~~Towards~~ Equality (1977), p. 33.

Table III.2: Percentage of Woman Reporting Household Duties as Main Activity, India, 1971

Age group	Rural	Urban	Total
15-19	66.8	49.0	62.8
20-24	76.5	78.6	77.0
25-29	76.8	84.8	78.5
30-39	75.6	84.5	77.2
40-49	73.1	80.8	74.5
50-59	66.9	69.8	67.4
Total (15-59)	73.1	75.0	73.5

SOURCE: *Towards Equality* (1974), p. 33.

While at first glance the tables appear to be straightforward and unproblematic, there are some reservations to be made concerning the definition of non-working women. First of all, it should be emphasised again that there is no such thing as "non-working" women. Secondly, women in the unorganised sector, such as those in Mies' case study, are not included in the labour force of such census. Thirdly, it should also be remembered that in rural areas the seasons determine the rate of work available and concomitantly the pattern of women's participation. To provide an example, Pranab Bardhan (1978:21) observed for West Bengal that: "In the relatively slack season of January-March ... as many as 67.9 percent of [women] reported domestic work as their principal current activity." In the peak agricultural period, only 13.6 percent reported household duties as their/main work. Finally, it should be noted that, in light of an overall female population of 264 million (out of a total Indian population of 548 million according to the 1971 census -- Wilkes, 1976:36), the women shown as being outside the labour force cited in Table

III.1 and III.2 would amount to 88 percent -- clearly an unrealistic estimate.(1)

This shall suffice as an indication that the data presented in Tables III.1 and III.2 are misleading, and can therefore not be used to elicit the ratios of women at home versus women in the work force. For rural women in particular, the data present a static picture which does not reflect the cyclical nature of agricultural work and women's participation in it.

These tables, especially that for 1971, should serve to dispel the myth that all rural women are engaged in agriculture. Unfortunately, the problems discussed above are not the only ones. In examining the occupational distribution of the female labour force, it was found that the 1971 Census excluded women reporting work as a secondary activity (Sundar, 1981:863 and Seal, 1981:26). This, coupled with the tendency of women to view themselves as housewives even when spending more time in the fields than at home, led to a drastic undercounting of women's participation, especially in agriculture. The revised definition used in the 1971 Census was a major departure from the definition of "workers" in the 1961 Census(2) and the 1961 and 1971 figures are therefore not strictly speaking comparable. Many authors view the earlier statistics as a more accurate presentation of women's participation in the labour force, and this explains the fact that even recent studies still draw on the 1961 data (see

(1) Note that dependants and infants are included in Table III.1.

(2) On problems with the 1961 Census, see Gadgil, 1965:2-6.

Gulati, 1976; Sundar, 1981; Miller, 1982). Studies which rely solely on the 1971 Census (Towards Equality, 1974; Mukerji and Mehta, 1975) must consequently be viewed with caution. In this thesis, data from both decades will be presented wherever possible.(1) While in general the 1981 data are deemed more reliable in reflecting women's work participation, they are too early to allow for an assessment of the change the Green Revolution brought for women. Therefore, a "Resurvey", carried out in 1977, which was conducted in order to allow for comparability, will be cited in an attempt to mitigate the discrepancies.(2)

A review of some of the major interpretational categories and models used in the discussion of the rural population will be presented. The most often employed distinction in the literature on rural development differentiates between "cultivators", "tenants" and "landless labourers".(3) These terms are supposed to characterise all classes of farmers, equating "cultivators" with the rich to well-off upper and middle-class farmers,

(1) Although the 1981 data are by now available, they have not been evaluated by the literature yet. As the validity of the 1981 categories has not been discussed, it was felt safer to focus on the earlier cens.

(2) It should be noted that K.C. Seal (1980:28ff) doubts the validity of the Resurvey. He suggests that it cannot make up for the shortcomings of the original Census of 1971. In particular, he claims that the numerical decline in "cultivators" is a statistical mirage. As will later be seen, he is contradicted by all other evidence.

(3) Or even more simply, between "cultivators" and "labourers" (Indian Census classification cited in Dixon, 1982:378-379).

"tenants" with middle-class farmers forced to lease additional land to make their holdings viable, and "landless labourers" with the bottom of the echelon. Obviously, the usefulness of this scheme is quite limited. As the authors of *Towards Equality* point out:

"Cultivators include absentee land owners who do not cultivate their land themselves, or cultivate it with hired labour, lease holders, and tenants of different categories, including share croppers and marginal farmers, who do not cultivate their own lands but also engage in labour on others' lands. Labourers, on the other hand, include casual, daily wage labourers, 'attached' workers, whose wages are fixed by contract, and 'bonded' labour who have taken loans from land-owners and have contracted to pay off the loan by working for them." (*Towards Equality*, 1974:162)

With these distinctions, we can now consider the data of Tables III.3 and III.4, which give the distribution of female occupations for 1961 and 1971, respectively.

Table III.3: Distribution of Female Working Population, 1961
(in thousands and percent)

Total workers	59,402	(100.0%)
Cultivators	33,103	(55.8%)
Agricultural labourers	14,121	(23.9%)
Mining, etc.	1,187	(2.0%)
Household industry	4,665	(7.9%)
Manufacturing	799	(1.3%)
Construction	243	(0.4%)
Trade and commerce	815	(1.4%)
Transport, etc.	65	(0.1%)
Other services	4,364	(7.3%)
<hr/>		
Non-Workers	153,065	

SOURCE: Derived from 1961 Census figures cited in Gadgil, 1965:28

Table III.4: Distribution of women workers into nine industrial categories, India, 1971 (figures in percent)

Industrial category	Rural	Urban	Total	Total in 1000's
Cultivators	22.6	4.2	29.6	9,766
Agricultural labourers	54.4	17.5	50.4	15,795
Livestock, forestry, fishing, hunting, and plantations, orchards and allied activities	2.6	2.0	2.5	783
Mining and quarrying	0.3	1.0	0.4	124
Manufacturing, processing, servicing and repairs:				
i - Household industry	3.6	10.0	4.3	1,331
ii - Other than household industry	1.6	12.9	2.8	865
Construction	0.4	2.9	0.6	203
Trade and commerce	1.0	8.2	1.8	556
Transport, storage & communication	0.1	3.2	0.5	146
Other services	3.4	38.1	7.1	2,229
Total	100.0%	100.0%	100.0%	31,298

SOURCE: *Towards Equality*, 1974, p. 32.

For reasons developed above, the data from these tables is not strictly comparable. In addition, the figures for 1971 are more detailed. Nevertheless, it is possible to draw some broad conclusions. For 1961 (Table III.3), the largest category is that of "cultivators", accounting for some 56 percent of the total working female population. "Agricultural labourers", with 24 percent, were the second largest category, followed by "Household industry" (8 percent) and "Other services" (7 percent). By 1971, the total number of rural women engaged in agriculture amounted to 87 percent, of which only 32.6 percent were cultivators, while 54.4 percent worked as agricultural

labourers. This is a clear reversal of the situation in 1961, with the predominant shift over time having obviously occurred from cultivators to agricultural labourers. The next highest concentration of rural women is to be found in household industries(1), followed by women in the obscure category of "other services". In this case, the change over time is obfuscated by the changes which occurred in the classifications themselves; the shifts appear to be minor, however. While the phenomenon of female construction workers, an unusual profession for women in the developed countries, preoccupies a number of Western writers (eg. Boserup, 1970:79-80), they only account for 0.4 percent of the rural female workforce, and 2.9 percent in urban areas.

In order to obtain a more definite idea of the changes which occurred between the two censi, it is necessary to consider the data of the Resurvey. As can be seen from Tables III.5 and III.6, the Resurvey allows for some adjustments, thereby making the two censi more comparable.

(1) In light of Mies' case study, one can assume that this rate is much higher in reality.

Table III.5: Percent Distribution of Rural Workers by Categories of Principal Occupation, 1961, 1971, and Adjusted*

Sex	Main Work	Census 1961	Census 1971	Adjusted 1961	Adjusted 1971
Rural male	Cultivators	61	56	62	56
	Agricultural labourers	16	25	15	25
	Other workers	23	12	23	19
	(Total)	100%	100%	100%	100%
Rural female	Cultivators	59	38	60	39
	Agricultural labourers	25	54	23	48
	Other workers	16	13	17	13
	(Total)	100%	100%	100%	100%
All rural workers	Cultivators	60	51	61	52
	Agricultural labourers	19	31	18	31
	Other workers	21	18	21	17
	(Total)	100%	100%	100%	100%

* "Adjusted" refers to Resurvey figures. Slight incompatibilities occur with Table III.3 and III.4 because of differences in sources.

SOURCE: K. Bardhan, 1977:37.

Table III.6: Share of Rural Workers in Agriculture by Sex(1)

	Census 1961	Census 1971	Adjusted 1961	Adjusted*
Rural male workers in agriculture	77%	81%	77%	81%
Rural female workers in agriculture	84%	87%	83%	87%
All rural workers in agriculture	79%	82%	79%	83%

* "Adjusted" refers to Resurvey figures.

SOURCE: Derived from figures of Table III.5.

(1) Other sources indicate different data: while the figures for 1971 provided by the authors of *Towards Equality* match Bardhan's, according to S. Mukhopadhyay (1981:116) 80 percent of women worked in agriculture and related activities. For 1961, Gadgil (1965:5) states that 78 percent of working women were to be found in farm work.

2

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While a comparison of the "raw" data from 1961 and 1971, provided by Seal (1981:27) shows a decrease of 28 million in the number of rural female workers, the Pesurvey demonstrates this number to be much lower, at 15-17 million. As will be confirmed below, the women represented by the difference between these two figures can be assumed to have been marginalised. They thus either turned into agricultural labourers, or were pushed out of farm employment altogether. A tabulation of the aggregate percentages derived from Table III.6 indicates that there is hardly any difference in the overall proportion between the Census and the adjustments (see Table III.6). It is interesting to note however that the only divergence which takes place concerns female rural workers. According to Tables III.5 and III.6, in 1961 (Adjusted Census data) 83 percent of all rural women in the labour force worked in agriculture. Of these, 60 percent were cultivators and 23 percent agricultural labourers. 62 percent of the men were cultivators, while only 15 percent were agricultural labourers. In 1971, the picture had changed: while for men the ratio of cultivators had dropped by 6 percent, women experienced a decrease of 21 percent! Similarly, while the rate of male agricultural labourers had increased by 10 percent, the ranks of female agricultural labourers swelled by 25 percent. As will be seen later, a process of mass pauperisation obviously occurred during this period, turning cultivators into agricultural labourers. With the encroachment of capitalist relations of production into the rural context in many parts of

India, subsistence agriculture had to make way for commercialised farming, with market-type relations being introduced. But why this process occurred so unevenly -- affecting women more than men -- cannot be that easily explained. The central question, which will be investigated in some detail later, is whether women were more strongly affected than men by the general process of proletarianisation which seems to have occurred with the Green Revolution. For now, the overview below should suffice in providing an introduction to the segregated labour market as it pertains to the rural Indian situation.

The Segregated Labour Market

One of the major defining characteristics of the segregated labour market concerns the division of occupations into predominantly male and female. As always in the case of India, however, diversity complicates the picture. The only statement the various authors agree on is that, in India, women never participate in ploughing. Exceptions can of course be found; Boserup (1970:33), for instance, states that "... in India, two percent of the ploughing done for farmers by agricultural labourers is done by women." It is generally safer, however, to state that ploughing is a male preserve. A closer investigation of sex-specific activities reveals contradictory evidence. For example, Swapna Mukhopadhyay (1981:104) cites the example of

"... a village in Mysore [Karnataka] where men go out for wage labour leaving the women to do everything, including ploughing on family farms. The situation is quite different if wage labour fetches small money.

The experience in the Maharashtra Employment Guarantee Scheme has been that when wage rates offered are low, men stay in family farms and women go out to work. (1)

This leads one to concur with Boserup (in S. Mukhopadhyay, 1981:103-104) that in fact there is nothing biologically based about agricultural operations.

Of course, this statement does not imply that therefore no sex-specific division of labour exists. Firstly, a number of case studies demonstrate that women are represented in agriculture in greater proportions than men. In a sample of 82 villages in Gujarat, 95 percent of women as opposed to 75 percent of men were engaged in farm work (Hirway, in S. Mukhopadhyay, 1981:104). Secondly, it should also be noted that women are concentrated at the bottom of agricultural occupations (S. Mukhopadhyay, 1981:103). This is clearly demonstrated by the increase in the proportion of female agricultural labourers between the 1961 and 1971 census.

In general, it can be stated that women end up in the worst-paid positions in all sectors of employment. The women working in construction, mining, the fishing industries or manufacturing are as a rule badly off. In addition, as Gulati's (1982) studies demonstrate, in industries where both sexes are employed, men tend to get the better-paying positions. In the

(1) See also Boserup (1970:24), who points to the incidence of female farming systems among some of the tribals in India, as in Manipur. The authors of *Towards Equality* (1974:150) likewise note a high rate of woman farmers in the Himalayan regions.

construction industry, for example, women's work ends up being physically more demanding than men's, because men have the opportunity to advance to supervisory positions, while women remain the beasts of burden (Gulati, 1982:110-113). Furthermore, women receive lower remuneration for the same work. The supposition that a higher male wage is justified because men work physically harder is also demonstrated to be a myth by Gulati.

This points to the next feature of the segregated labour market, the earning differential. The first problem one encounters in discussing this is that, due to the household-type activities prevailing in the agrarian context, it is not unproblematic to divide the household's income into male and female earnings. Consequently, the focus here will be on wages rather than total earnings.

Although the National Commission of Labour (1969) emphasised the principle of equal pay for equal work, the recommendation apparently has not been put into practice yet. Even if, for example, legislation were passed enforcing this issue, it could easily be circumvented by categorising certain occupations, or even whole industries, as low wage sectors, and only coincidentally as female.(1) Women remain underpaid: it was found that the "average earnings of female workers come to two-thirds of the average earnings of male workers." (Seal, 1981:75) The seasonality of agricultural work, and the fact that

(1) As Seal (1981:74) points out, technically this may not amount to sex discrimination.

the general set-up of the unorganised sector vitiates a monitoring of employment practices, are conducive to discriminatory practices. (1)

Evidence from various case studies bears this out. For West Bengal, Kalpana Bardhan found that the higher paying activities are usually male dominated, and operations in which women prevail consistently fetch lower wages. Pranab Bardhan's study of West Bengal support this conclusion. For Andhra Pradesh, the same was found true. Parthasarathy and Rao report in their study of four regions that female dominated operations are paid less (all cited in S. Mukhopadhyay, 1981:98).

As these findings are quite telling, they lead to a number of questions. Firstly, it would be interesting to find out under which circumstances the wage gap fluctuates, and if (or when) it does, whether the changes in male and female earnings are related. Several studies address this question, generally supporting the findings of Parthasarathy and Rao (1981:128) that "... the improvement of wage rates of females is conditioned by overall improvement of wages for both males and females. The impact of growth on improvement of wage rates of females and on female/male wage differentials depends upon the nature of the development process." The authors find that where development

(1) This was confirmed by the authors of Towards Equality (1974:167), who add that another "... factor that contributes to the low wages of women is the practice of identifying a workday as equivalent of 7-9 hours. Many women are unable to report for duty on time because of household responsibilities, and do not get the full rates."

pushes women further to the periphery and into the low-wage sector, the wage gap widens. Where development increases the opportunities for employment and more women find work, however, the differential may lessen.

Another relevant question is what happens to the wage differential if tasks are carried out by both sexes. Hirway's study of Gujarat indicates that in this case, women and men earn almost identical wages (Hirway, in Mukhopadhyay, 1981:98-99). This may of course be different in other regions of India.

As can be seen from this section, then, a number of factors operate in creating a segregated labour market for Indian women in which they are systematically underpaid in comparison to men.

A Regional Overview of Women's Work Participation

Before turning in the next chapter to a presentation of the Green Revolution, a regional overview of women's work participation, with emphasis on the Punjab, Andhra Pradesh and Tamil Nadu, will be provided. This will serve firstly to give some substance to the analysis which follows, and secondly, to throw some light on the already-mentioned "North-South" debate.

To begin with, it is imperative to analyse female labour participation in the three states. Das (1976:138) addresses this directly:

... not only are the tasks performed by women deemed to be of greater importance in areas of wet rice cultivation, but the labour intensive activities during peak periods make it difficult to withdraw the women from agricultural operations. The economic cost of withdrawing the women from the labour

force in dry cereal agriculture is much lower, since the contributions of women to agricultural activities are of relatively lesser importance.

As purdah is more pervasive in the north, the conclusion has been drawn by some authors that, where women's participation in farm work is less important, they are more likely to become subject to seclusion (Miller, 1982:777). Their supposedly decreased value is also thought to be reflected in higher female mortality rates. Such assumptions have to be viewed with caution, however. On one hand, it should be noted that simplistic associations between the visibility of women's economic participation and the value attributed to them are untenable. The fact that women in South India participate in the agro-economy in higher numbers does not imply that they are therefore held in higher esteem or enjoy more equality. Das (1976:138) emphasises that kinship patterns and the overall social structure of India which govern women's position exist independently of crops.

On the other hand, however, it should not be assumed that the degree of women's economic participation is the sole determinant of their value for society. For Indian middle- and upper-class families, there are high costs involved in raising female children. The fact that marriages are virilocal means that parents will not get an economic return from their "investment" in their daughter's upbringing. There are also the exorbitant costs of dowry. Where these financial liabilities are not offset by a visible economic participation, women are more likely to suffer.

Thirdly, while the incidence of seclusion may be higher in the North of India, only a few authors attempt to analyse this phenomenon. A look at social composition reveals that higher castes are more strongly represented in the North (Boserup, 1970:71). In the South, nearly the whole of the population consists of sudras (the lowest caste) and untouchables, with only a few Brahmins (Rasham, 1967:151). As seclusion of women is a status symbol of high castes, it follows that it is more prevalent in the North. Whether these factors ultimately result in a higher female mortality rate can be assessed in light of the sex ratios presented below in Table III.7. First, however, it should be noted that the female sex-ratio has declined all over India since the beginning of the century; this is supposed to correspond in part to the increasing demand for dowries (Towards Equality, 1974:11).

Table III.7: Population of India, Andhra Pradesh, Punjab and Tamil Nadu in 1971

		Persons	Share of males in %	Share of females in %
India	Total	547,949,809	51.82	48.18
	Rural	438,855,500	51.32	48.68
	Urban	109,094,309	53.82	46.18
Andhra Pradesh	Total	43,502,708	50.59	49.41
	Rural	35,100,181	50.42	49.58
	Urban	8,402,527	51.30	48.70
Punjab	Total	13,551,060	53.62	46.38
	Rural	10,334,881	53.54	46.46
	Urban	3,216,179	53.89	46.11
Tamil Nadu	Total	41,199,168	50.55	49.45
	Rural	28,734,334	50.25	49.75
	Urban	12,464,834	51.26	48.74

SOURCE: Derived from the Indian "Final Population Series I, Paper I of 1972, pp. 3-4.

The ratios found in Table III.7 show that the Punjab displays a markedly lower female sex-ratio than either Andhra Pradesh or Tamil Nadu. While it is only about 46 percent in this wheat-growing state, it is over 49 percent in the other two. The all-India average lies near 46 percent for urban areas, and 48 percent for rural ones. These differences tend to support the claim that females still tend to be more neglected in the northwestern Indian states. It is interesting to note that the female population in urban centres is considerably lower than in rural areas. At a superficial glance, this could be regarded as further evidence for the hypothesis that, where women are more visible economically, they are treated with better care. However, the higher female sex-ratio in the countryside could also be an indication of male migration to the cities.

In an attempt to throw light upon the often repeated assumption that women play a marginal role in plough agriculture (Boserup, 1970:24ff), and the reciprocal supposition that women are more central in rice cultivation, some further evidence will be provided. The distribution of the crop regions in India will be examined first. An overview of rice and wheat growing areas in India can be found in Figures III.1 and III.2

Figure III.1

Source: Jasbir Singh, 1974.

Figure III.2

Source: Jasbir Singh, 1974.

By superimposing a map of India on these figures, one finds that rice is grown mainly in the eastern and southern states of Andhra Pradesh, Bihar, West Bengal, eastern Madhya Pradesh, Karnataka, Tamil Nadu and Kerala.(1) Wheat is concentrated in the northwest of India, in the states of Punjab, Haryana and Uttar Pradesh. Outliers can be found as far south as Madhya Pradesh, Maharashtra and Karnataka.

As the cultivation of wheat is associated with plough agriculture, one would therefore expect Figure III.3, in which the rate of female labour participation (FLP) is pictured, to indicate a low FLP rate for the northwestern wheat-growing states. But a look at Figure III.3 reveals that they coincide only partially.(2) While a low FLP characterises the Punjab, Haryana and parts of Uttar Pradesh, it is also to be found in parts of Bihar, Orissa, West Bengal and Kerala. The latter three are exclusively rice-growing states. The rest of the southern states and Gujarat display a medium FLP, whereas the highest rate is found in the areas of shifting agriculture, that is, in the internal hilly regions and the Tibetan border areas (Miller, 1982:784). Low female participation in West Bengal and the Punjab can be explained in terms of the cultural constraints

(1) Leaving the "far-eastern" Indian states -- such as Assam -- aside.

(2) It should be pointed out that the range of FLP may vary within a single state. For example: the lowest FLP (1.7%) is found in the Philbhit district of Uttar Pradesh, while the highest (98.3%) is in the hill district of Chamoli, also in Uttar Pradesh (Miller, 1982:784).

which act against women's participation in outdoor activities
(Gadgil, 1965:13).

Figure III.3: Rural female labour-participation rate, India,
1961 (districts with values below the median
are shaded)

Source: Miller, 1982:785.

Figure III.4: Disparity between male and female labour participation rates, India, 1961 (districts with values above the median are shaded)

Source: Miller, 1982:787

The information portrayed in Figure III.4, which demonstrates the regions of significant disparity between the sexes in labour participation rates, should assist in drawing further conclusions from the findings of Figure III.3: where a low FLP coincides with a high male/female labour participation disparity, one can deduce that, in these areas, discriminatory practices (such as seclusion), keeping women out of the labour force, are in force. Among other states, the Punjab and Uttar Pradesh fall into this category.

In sum, the investigation serves to refute the validity of general claims regarding the association of crop and FLP rate. Statements suggesting that rice cultivation automatically implies a high FLP rate, and that plough agriculture is related to restrictions on women, are simplistic. A single determinant -- in this case, crop -- does not suffice to explain women's labour participation rate.⁽¹⁾ Superficial suppositions such as Hoserup's not only tend to obscure the active role women play in agriculture, but also ignore the effects of factors such as class, caste or other cultural sanctions in determining the degree of women's labour participation.

(1) This is confirmed by Edholm, Harris and Young (1977:102), who point out that "The position of women cannot be simply deduced from a specification of the relations of production for any given case."

Conclusion

What this chapter has served to do, then, is to give some substance to the notion of the "rural Indian woman" as employed in this study. As is by now clear, this picture is not a straightforward one. Some of the commonplace assumptions in the relevant literature have been shown to be overly simplifying: there is no single factor -- be it crop, region or caste -- which can be used to analyse the rural woman and explain her predicament. Rather, a more complex perspective must be employed, taking into account material surroundings, class and caste position, and the limitations imposed on female workers by the segregation of the labour market.

To the extent that broad data can be used to achieve this, we have also outlined the characteristics of the female working force in India. Unfortunately, due to the flaws in the available data, only limited conclusions could be drawn from this material. Nevertheless, there were initial indications from these statistics that rural Indian women have been more severely influenced by some of the changes brought about by the Green Revolution. As such, the following chapter will directly address the nature of the Green Revolution in India, thereby serving to reinforce some of the observations of this chapter.

References to Chapter III

- Adamson, Peter (1980). "Women Work Twice as Hard as Men." *New Internationalist* #89 (July):20.
- Ahmad, Zubeida (1984). "Rural Women and their Work: Dependence and Alternatives for Change." *International Labour Review* 123, #1 (Jan.-Feb.):71-86.
- Ahmed, Iftikar (1983). "Technology and Rural Women in the Third World." *International Labour Review* 122, #4 (July-Aug.):493-505.
- Ahooja-Patel, Krishna (1979). "Women, Technology and Development Process." *Economic and Political Weekly* XIV, #36 (Sept.):1549-1554.
- Allen, Michael (1982). "Introduction: The Hindu View of Women." In M. Allen and S.N. Mukherjee (eds.), *Women in India and Nepal*. Canberra: Australian National University Monographs on South Asia, #8.
- Altekar, A.S. (1962). *The Position of Women in Hindu Civilization from Prehistoric Times to the Present Day*. Delhi: Motilal Banarsidass.
- Bagchi, Deipica (1981). "Women in Agrarian Transition in India: Impact of Development." *Geografiska Annaler* 63B, #2:109-117.
- Bardhan, Kalpana (1977). "Rural Employment, Wages and Labour Markets in India -- a Survey of Research (Section I)." *Economic and Political Weekly* XII, #26 (June):34-48.
- Bardhan, Pranab (1978). "Some Employment and Unemployment Characteristics of Rural Women -- an Analysis of NSS Data from West Bengal, 1972-1973." *Economic and Political Weekly*, XIII #12 (March):21-26.
- Basham, A.L. (1967). *The Wonder that was India -- a Survey of the History and Culture of the Indian Subcontinent Before the Coming of the Muslims*. New York: Taplinger Publishing Co.
- Beneria, Lourdes (1979). "Reproduction, Production and the Sexual Division of Labour." *Cambridge Journal of Economics* III, #3:203-225.

Beteille, Andre (1960). Castes: Old and New -- Essays in Social Stratification. London: Asia Publishing House.

----- (1975). "The Position of Women in Indian Society." In D. Jain (ed.), Indian Women. India: Publications Division, Ministry of Information and Broadcasting, Government of India, pp. 61-68.

Hoserup, Ester (1970). Woman's Role in Economic Development. New York: St. Martin's Press.

Brandtzeeg, Brita (1979). "Women, Food and Technology -- the Case of India." Economic and Political Weekly XIV, #47 (Nov.):1921-1924.

Chakraborty, Krishna (1978). The Conflicting Worlds of Working Mothers -- a Sociological Inquiry. Calcutta: Progressive Publishers.

Charlton, Sue Ellen (1984). Women in the Third World. Boulder: Westview Press.

Cleaver, Harry (1976). "Internationalization of Capital and Mode of Production in Agriculture." Economic and Political Weekly, March 1976:7-16.

Das, Veena (1976). "Indian Women: Work, Power and Status." In B.R. Nanda (ed.), Indian Women -- from Purdah to Modernity. New Delhi: Vikas Publishing House Pvt. Ltd.

Dixon, Ruth (1982). "Mobilizing Women for Rural Employment in South Asia: Issues of Class, Caste and Patronage." Economic Development and Cultural Change XXX, #2 (Jan.):373-390.

Dube, S.C. (1963). "Men's and Women's Roles in India: A Sociological Review." In H. Ward (ed.), Women in the New Asia -- The Changing Role of Men and Women in South and South East Asia. Geneva: UNESCO.

Edholm, Felicity, Harris, Olivia and Young, Kate (1977). "Conceptualizing Women." Critique of Anthropology III, #9-10:101-130.

Epstein, T.S. (1981). "Rural Women and Their Multiple Role." In T.S. Epstein and R.A. Watts (eds.), The Endless Day -- Some Case Material on Asian Rural Women. Oxford: Pergamon Press.

Etienne, Mona and Leacock, Eleanor (1980). "Introduction: Women and Anthropology: Conceptual Problems." In M. Etienne and E. Leacock (eds.), Women and Colonization -- Anthropological Perspectives. New York: Praeger Publishers.

Frankel, Francine (1971). *India's Green Revolution -- Economic Gains and Political Costs.* Princeton, N.J.: Princeton University Press.

Gadgil, D.R. (1965). *Women in the Working Force in India.* New York: Asia Publishing House.

Germaine, Adrienne (1981). "Poor Rural Women" -- a Policy Perspective." Mimeo reprint by the Ford Foundation from the *Journal of International Affairs* XXX, #2:1-17.

Gulati, Leela (1982). *Profiles in Female Poverty -- a Study of Five Poor Working Women in Kerala.* Oxford: Pergamon Press, "Women in Development" series, vol. V.

I.L.O., (1981a). "Rural Development and Women in Asia -- Proceedings and Conclusions of the I.L.O. Tripartite Asian Regional Seminar, Mahabaleshwar, Maharashtra, India, April 6-11. Geneva.

----- (1981b). "Proceedings of a Workshop." In *Women in the Indian Labour Force.* Bangkok: Asian Employment Programme, pp. 1-17.

India (1974). *Towards Equality.* New Delhi: Department of Social Welfare, Ministry of Education and Social Welfare.

Jacobsen, Doranne (1976-77). "Indian Women in the Process of Development." In *Journal of International Affairs* XXX, #2 (Fall-Winter):211-242.

Jain, Devaki (1980). "Women's Employment as Related to Rural Areas in India." Copenhagen: World Conference of U.N. Decade for Women (July 9-13)

Jain, Lilly. (1978). "Die indische Frau im Verlauf der Geschichte." *Indo Asia* XX, #1:116-132

Kapur, Promilla (1970). *Marriage and the Working Woman in India.* Bombay: Vikas Publications.

Kaul, Inge (1974). "Gesellschaftliche Entwicklung und Emanzipation der Frau." Konstanz U., Ph.D. dissertation, unpublished.

----- (1973). "Zur Diskussion der gesellschaftlichen Position der Frau in Indien -- ein Literaturbericht." *Internationales Asienforum* IV, #4:599-614.

Kaur, Manmohar (1968). *Role of Women in the Freedom Movement (1857-1947).* Delhi: Sterling Publishers.

- Kelkar, Govind (1980). "The Impact of the Green Revolution -- an Indian Case Study." *Women at Work* 2:11.
- Kolenda, Pauline (1978). *Caste in Contemporary India: Beyond Organic Solidarity*. Menlo Park, Calif.: The Benjamin/Cummings Publishing Co.
- Koshal, Manjulika (1980). "Indira Gandhi as Head of Government." In S. Chipp and J. Green (eds.), *Asian Women in Transition*. University Park: The Pennsylvania University Press, pp. 251-262.
- Leach, E.R. (1960). "Introduction: What Should We Mean by Caste?" In *Aspects of Caste in South India, Ceylon and Northwest Pakistan*. Cambridge: Cambridge University Press, pp. 1-10.
- Loufti, Martha (1980). *Rural Women -- Unequal Partners in Development*. Geneva: I.L.O.
- Mazumdar, Vina (1982). "Another Development with Women -- a View from Asia." *African Association of Women on Research and Development Seminar, Dakar, June 21-25:65-72*.
- Mehta, Pama (1970). *The Western Educated Hindu Woman*. Bombay: Asia Publishing House.
- Mehta, Vimla (1979). *Attitudes of Educated Women Towards Social Change*. Delhi: National Publishing House.
- Mies, Maria (1982). "The Dynamics of the Sexual Division of Labour and Integration of Rural Women Into the World Market." In B. Lourdes (ed.), *Women and Development -- The Sexual Division of Labour in Rural Societies*. New York: Praeger Special Studies, pp. 1-28.
- Miller, Barbara (1982). "Female Labor Participation and Female Seclusion in Rural India -- a Regional View." *Economic Development and Cultural Change* XXX, #4 (July):777-794.
- Mitra, Asok (1981). "Participation of Women in Socio-Economic Development Planning -- the Case of India." In *Women and Development -- Indicators of Their Changing Roles*. Paris: UNESCO, Socio-Economic Studies, #3:49-69.
- Mukerji, A.B. and Mehta, S. (1975). "Female Participation in Agricultural Labour in India -- Patterns and Associations." *Tijdschrift voor Econ. en Soc. Geografie* 66, #2:103-107.
- Mukhopadhyay, Maitreyee (1984). *Silver Shackles -- Women and Development in India*. Oxford: Oxfam.

Mukhopadhyay, Swappa (1981). "Women Workers of India -- a Case of Market Segmentation." In I.L.O. (1981b):93-119.

Nelson, Nici (1979). *Why Has Development Neglected Rural Women?* Oxford: Pergamon Press.

O'Kelly, Elizabeth (1978). *Rural Women -- Their Integration in Development Programmes and How Simple Intermediate Technology can Help Them.* London: Intermediate Technology Publications, Ltd.

Orans, Martin (1968). "Maximizing in Jajmaniland -- a Model of Caste Relations." *American Anthropologist* 70 (Oct.):875-897.

Papanek, Hanna (1982). "Purdah -- Separate Worlds and Symbolic Shelter." In H. Papanek and G. Minault (eds.), *Separate Worlds -- Studies of Purdah in South Asia.* Delhi: Chanakya Publications, pp. 3-53.

Parthasarathy, G. and Rao, G.D. (1981). "Women in the Labour Force in India." In I.L.O. (1981b):124-137.

Radhakrishnan, S. (1956). *Religion and Society.* London: George Allen & Unwin, Ltd.

Saradamoni, K. (1982). "Women's Status in Changing Agrarian Relations: a Kerala Experience." *Economic and Political Weekly* XVII, #5 (Jan.):155-162.

Sawant, S.D. and Dewan, R. (1977). "Rural Female Labour and Economic Development." *Economic and Political Weekly* XIV, #26 (June):1091-1099.

Seal, K.C. (1981). "Women in the Labour Force in India -- a Macro-Level Statistical Profile." In I.L.O. (1981b):21-91.

Sen, Gita (1982). "Women Workers and the Green Revolution." In L. Benenise (ed.), *Women and Development -- The Sexual Division of Labour in Rural Societies.* New York: Praeger Publishers, pp. 29-64.

Sengupta, Padmini (1974). *The Story of Women in India.* New Delhi: Indian Book Co.

Sharma, Ursula (1980). *Women, Work and Property in Northwest India.* London: Tavistock Publications.

Singh, Jasbir (1974). *An Agricultural Atlas of India: a Geographical Analysis.* Kurukshetra, Haryana: Vishal Publications.

Srinivas, M.N. (1977). "The Changing Position of Indian Women." *Man* 12:221-238.

Sundar, Pushpa (1981). "Characteristics of Female Employment -- Implications for Research and Policy." *Economic and Political Weekly* XVI, #19 (May):863-871.

Swedish International Development Agency (1974). *Women and Developing Countries -- Case Studies of Six Countries*. Stockholm: S.I.D.A. Research Division.

Visaria, Pravin (1983). "Level and Nature of Work Participation by Sex, Age and Marital Status in India, 1961." *Economic and Political Weekly* XVIII, #19-21 (May):901-918.

Whyte, Robert and Whyte, Pauline (1982). *The Women of Rural Asia*. Boulder, Co.: Westview Press.

Wilkes, Joy (1972). *A Report on Church World Service Consultation in India on Women and Development*. U.S.A.: Church World Service.

Chapter IV

The Effects of the Green Revolution

In analysing the impact of development programmes on the role of women, it is of course necessary to define and evaluate the relevant strategies beforehand. This is particularly true in the case of the "Green Revolution". As will be seen, the implications of its implementation are complex: the Green Revolution is not composed solely of new grains, as specific policies and practices follow from this choice -- taken together, these amount to a new socio-economic situation, and potentially a changed position for women.

The Green Revolution

The beginnings of the Green Revolution date back to the 1940s. ~~The Japanese were the first to develop a high-yielding~~ wheat variety, but theirs did not export well. Improved dwarf varieties were developed in the United States under the sponsorship of the Rockefeller Foundation (Brown, 1970:16-17). These new seeds resulted in spectacular yields at harvest, and were quickly seen by some enthusiastic scientists as a possibility for the alleviation of world hunger.

At first, dwarf wheats were distributed in Mexico, where they were quite successful. They reached India in 1956, and

imports on a massive scale began ten years later. Between 1965 and 1969, India's production of wheat increased by 50% (Brown, 1970:5). In other countries, the results were similarly encouraging, and it is thus not surprising that the new seeds were hailed as the "Green Revolution". Enthusiasts such as Lester Brown went so far as to compare the Green Revolution to the "restoration of post-war Europe" -- he presumed that "Skillfully handled in the seventies, the Green Revolution can become the vehicle for eliminating most of the malnutrition and hunger that now cripple half the people on this planet and for providing millions of new jobs in the countryside." (Brown, 1970:vii)(1)

The new technology was also applied to rice. Research on rice grains began in 1959 in the International Rice Research Institute in the Philippines. A new rice seed variety -- I.R. 8 -- was hailed as a "miracle seed", and was believed to be able to achieve the same success for rice as had been attained for wheat: "The development of I.R. 8 and its dissemination throughout Asia is ... literally helping to fill hundreds of millions of rice bowls once only half full." (Brown, 1970:4) However, problems with the implementation of this miracle seed ensued, and as Farmer (1979:306) points out, "... I.R. 8 was far from being the universal panacea it was made out to be." There were

(1) Although Brown also admitted to some difficulties and problems in the Green Revolution, his optimistic naivety soon found its critiques. Griffin, for example, states that Brown's claims are "most exaggerated" (Griffin, 1972:57ff.).

incompatibilities in the growth cycle of I.R. 8 with local conditions, and it proved susceptible to pests and diseases. Later developments of the High-Yielding Varieties(1) managed to overcome some of the specific problems associated with I.R. 8, but it can be stated in general that the rice cultivation of HYV's lagged behind the success of wheat.

The Green Revolution did not consist of new seeds alone, however, as in practice it is made up of a whole "package" of requirements. The High-Yielding Varieties, which had been developed in carefully controlled laboratory settings or on test farms, required fixed inputs, such as an assured supply of water (and consequently irrigation), specific dosages of fertilisers, and, due to their decreased resistance to plant diseases, pesticides. Apart from the potential ecological repercussions, problems were bound to arise where these inputs could not be provided. It was thus tempting to implement the Green Revolution in areas which already had favourable conditions -- such as pre-existing, well-functioning irrigation systems -- in order to guarantee high returns. The danger which this approach held in terms of creating regional and class disparities was recognised by the Indian government. In order to avoid the problems of a selective approach, the Indian Planning Commission announced in 1957 "... a program for rapid all-India coverage under the National Extension Service and Community Development Program with

(1) From now on, the High-Yielding Varieties will be referred to as "HYVs".

special attention to backward and less-favoured regions." (Frankel, 1971:3)

The programme was supposed to be realised through the "mobilisation of peasant cultivators", who were to be employed in labour-intensive agricultural production programmes and through land reform. These reforms, especially the redistribution of land, were recognised as an essential step for the inclusion of small- or tenant-farmers in the Green Revolution.

Nevertheless, the reforms failed due to the massive opposition of the land-owning classes, who were represented in the legislature (Frankel, 1971:4). Furthermore, as a result of stagnation in agricultural development, as well as the realisation that this could endanger the pace of industrial advancement, the objectives of the 1957 Planning Commission were abandoned. Instead, priority was attached to rapid results, and the Green Revolution thus came to be implemented in favourable areas. This policy was supported by the Ford Foundation, which helped to set up the Intensive Agricultural Development Programme (IADP) (Frankel, 1971:5). The two key elements of this strategy were "... the efficacy of the interaction of various improved agricultural practices conceived as a package and the advantage accruing from concentrated and coordinated effort in areas with significant agricultural potential." (Fourth Five Year Plan, 1969-74 -- Draft:106) This policy was welcomed by proponents of the "trickle-down" approach to development. They argue that the better-off sectors of society, rather than the poor, should be

favoured, as the latter can be expected to benefit from the greater dynamism assumed of the former. Such arguments find their expression in the writings of Gilbert Etienne and M.S. Randhawa.

Critical authors hold that the "trickle-down" assumptions were not fulfilled. Writers such as Kenneth Dahlberg (1979), Biplab Dasgupta (1977) or Andrew Pearse (1977) charge that the commercialisation of agriculture leads to increasing rural inequalities.

As this short introduction into the controversy surrounding the Green Revolution shows, two opposing streams of thought emerge: at one end are found the proponents and enthusiastic supporters of this development strategy, at the other end its several critics.

In this context, it is interesting to note the bias in many of the "pro-Green Revolution" articles: the data used often stem solely from the successful areas. George Blyn, for instance, whose fieldwork was carried out exclusively in the Punjab and Haryana, can generalise that "Gain for cultivators, both large and small, which my earlier Green Revolution article had predicted, was confirmed by observation." (Blyn, 1983:719) Other examples are to be found in Randhawa and S.S. Jhota. The latter complains that "It is fashionable for sociologists and political economists these days to malign the 'Green Revolution' technology on the grounds of its effect upon agricultural income distribution, which are claimed to affect small farmers and

agricultural labourers "adversely." (Johl, 1975: 178) He then proceeds to prove these claims wrong by investigating data solely from the Punjab. Studies from south Indian rice-fields tend however to be more negative in tone when it comes to assessing the Green Revolution. P. Farmer, for example, who examines the Green Revolution in South Asia, talks therefore of its relative failure (Farmer, 1979:306 and 316).

As such, there would appear to be significant variations as to the success of the Green Revolution, depending on region and crop, variations which analysis ought to be sensitive to. In order to illustrate the differences between the northern wheat-growing and southern/eastern rice-growing areas in India, three case studies will be presented. The examples which have been chosen are those of the northern state of Punjab, and the southern ones of Andhra Pradesh and Tamil Nadu.⁽¹⁾ In order to place these case studies in perspective, they will be preceded by an all-India overview in which the relevant statistical data will be provided. A difficulty which arises in this respect is that, depending on the source considered, unfortunate variations in data can be found. Where these were slight, they have been disregarded, but generally, even when variations were more significant, they were not found to alter the overall pattern.

(1) In order to simplify the debate, the focus will be on the two main crops of the Green Revolution, wheat and rice. Although hybrid seeds for maize, jowar and bajra have also been developed, they will be disregarded, as they are of lesser significance in overall food production -- as can be seen from Table IV.1, wheat and rice together account for at least two-thirds of all cereal production.

Be this as it may, where such differences arise, both figures have been presented, and judgement left up to the reader.

Rice and Wheat Production in India

The increases attributable to the HYV grains of the Green Revolution are quite obvious from an analysis of production figures for India (see Table IV.1). This can be seen in the change for wheat-output: whereas this rose by about 50 percent in the fifteen years from 1950-51 to 1965-66 (the "base-year" of the Green Revolution), it more than tripled in the 1965-66 to 1978-79 period. More recent figures are available from the Economic Survey of India (1981-82:5); while this gives a figure of 35.5 million tonnes for 1978-79, this had risen further to 36.5 million tonnes by 1980-81.

Table IV.1: India -- Production of Principal Cereals, by Selected Years ('000 tonnes)

Year	Wheat	Rice	All Cereals
1950-51	6,462	20,576	42,414
1955-56	8,760	27,557	55,805
1960-61	10,997	34,574	69,314
1965-66	10,394	30,589	62,403
1970-71	23,832	42,225	96,604
1974-75	24,104	39,579	89,812
1975-76	28,846	48,740	107,095
1976-77	29,010	41,917	99,806
1977-78	31,749	52,670	114,434
1978-79	34,982	53,829	119,200

Source: India, Statistical Abstract (1979), Table 17.

Similar results are to be found in considering rice production (Table IV.1). Output rose by 50 percent in the fifteen years preceding the Green Revolution; from 1965-66 to 1978-79, however, the increase was from 30.6 to 53.8 million tonnes, or some 75 percent. Updating this somewhat using the Economic Survey (1981-82:5), the figure rose to 53.8 million tonnes in 1978-79, to remain at approximately this level in 1980-81.

Table IV.2: India -- Area Under Selected Crops, 1950-51 through 1978-79 ('000 hectares).

Year	Wheat	Rice	All Cereals,
1950-51	9,746	30,310	78,230
1955-56	12,367	31,521	87,344
1960-61	12,927	34,128	92,018
1965-66	12,572	35,470	101,782
1970-71	18,241	37,592	99,051
1974-75	18,010	37,888	103,727
1975-76	20,454	39,475	101,372
1976-77	20,922	38,511	101,372
1977-78	21,456	40,283	104,018
1978-79	22,220	40,176	104,573

Source: India, Statistical Abstract (1979), Table 16.

Although the output of rice is higher in absolute terms than that of wheat, the latter crop has actually been far more successful in terms of implementation. This is evident from consideration of Table IV.2, in which the total area under cultivation for each crop is given. As can be seen, from 1965-66 to 1978-79, the area under rice production rose a bit less than 5

million hectares, or by about 13 percent. According to an alternate source, this had fallen off somewhat by 1980-81, to 39.8 million hectares (Reference Annual, 1982:216 -- variations between this and the Statistical Abstract were only slight). For wheat, however, planted area rose by some 10 million hectares between 1965-66 and 1978-79, equivalent to a rise of 77 percent. Once again, more recent figures suggest this level was maintained in 1980-81, standing at 22.1 million hectares (Reference Annual, 1982:217).

Viewed solely, in terms of output, the Green Revolution can thus be termed successful. This generally positive impression is held up by other sources as well. Thus, The Economist reports that in August 1984, 18 percent more grain was harvested than in 1982-83 (August 18, 1984:56). According to this article, "... the average yield per acre has increased from 260 kilogrammes to around 740 kilogrammes of wheat [in the last 30 years]. The rice yield has doubled during the same period, to 500 kilogrammes per acre." (August 18, 1984:59) This quotation once again suggests a somewhat higher rate of success for wheat than for rice. Why this should be the case can be explained on several grounds. First of all, as Ingrid Palmer points out, wheat HYVs were introduced in India six to eight years prior to rice varieties (Palmer, 1972:51). This gave the northern Indian states, in which wheat is predominantly grown, a considerable headstart. Secondly, wheat varieties are more resistant to pests and plant diseases; as Palmer notes, "Pakistan and India have suffered

disease outbreaks in their wheat fields to a lesser extent than in the case of rice ..." (Palmer, 1972:51). Other reasons for the greater success of wheat are to be found in the infrastructure of the Punjab, a point which will be dealt with in greater detail in the case study to follow.

The Green Revolution in the Punjab

It has already been mentioned that the Indian Planning Commission abandoned its original intention of a "balanced" development strategy in favour of quick production increases. This finds its expression in the Draft Outline of the Third Five Year Plan, where first mention is made of the Intensive Agricultural Districts Programme. Here it is stated that, "... it is proposed to make an intensive effort to increase agricultural production in selected areas where, on account of the availability of irrigation and assured rainfall, conditions appear favourable." (Draft Outline of the Third Five Year Plan, 1960:150 -- emphasis added) The Punjab was thus an obvious candidate, and Ludhiana was chosen as the first district of implementation. Due to the success of the Green Revolution package there, the new technology soon spread all over the state. The Green Revolution was in fact so successful in the Punjab that by 1974 the state produced "... one-fourth of the total grain requirements of the whole country" (Randhawa, 1974:178), and came to be regarded as the "granary of India".

Several other favourable elements in the Punjab's

infrastructure must be considered in explaining the success of the Green Revolution in this area. First of all, this state features a more adequate land-man ratio than other regions in India (Frankel, 1971:16-17), thereby facilitating a more equitable implementation of the Green Revolution. Land consolidation was begun in the 1920s by the British, and after Independence, further land reforms were instituted. Occupancy tenants, for example, gained permanent rights to land (Randhawa, 1974:47). Secondly, soil fertility is generally high, and irrigation was either already established before the inception of the Green Revolution, or the conditions for irrigation were favourable. In general, water management was decentralised. Other facilitating factors were that markets were assured and price policies favourable (Reference Annual, 1982:225).

Furthermore, as Randhawa points out, one should not underestimate what he calls "the human element" in the implementation of the new technology (Randhawa, 1974:33 ff.). The majority of the inhabitants of the Punjab are Sikhs, and while there is some confusion as to what Sikhism is, (1) the Sikh

(1) While for some Sikhism is an autonomous religious system, independent from Hinduism and Islam, others regard it as one of many Hindu reform movements. An alternative view regards it as an attempt at fusing Islam and Hinduism. McLeod, who investigated the phenomenon of Sikhism, refutes the latter two definitions, and states that "Sikhism is indeed a unique phenomenon, but ... this uniqueness derives more from its late development than from its earliest forms of custom and belief." (McLeod, 1975:295) Although Guru Nanak, the founder of Sikhism, opposed the caste system, it persisted. As Elliott confirms, "Assertions that Sikhs, unlike India's majority Hindus, have no caste system are a myth." (Elliott, 1985:4).

community is differentiated by certain characteristics from its Hindu or Muslim counterparts. Most of the followers of the Sikh gurus are members of rural "Jats", and, unlike members of high Hindu castes, these Jats do not view manual, particularly agricultural, labour as demeaning, and participate enthusiastically in agricultural innovation (Randhawa, 1974:34 and McLeod, 1975:301). Generally, the Sikhs are known as "... an aggressive and innovative community." (Franke, 1971:19)

This combination of factors leading to the high growth rate of the Punjab is reflected in the production figures which follow (see Table IV.3).(1)

Table IV.3: Punjab -- Rice, Wheat and Total Cereals Production, 1965-1981 (thousand tonnes).

Year	Rice	Wheat	Total Cereals
1965-66	296	1916	3061
1966-67	338	2494	3687
1967-68	391	3400	4896
1968-69	460	4520	6004
1969-70	573	4800	6505
1970-71	688	5145	6997
1971-72	920	5618	7623
1972-73	955	5368	7400
1973-74	1163	5257	7378
1974-75	1179	5300	7713
1975-76	1447	5788	8425
1976-77	1741	6272	8866
1977-78	2494	6642	10024
1978-79	3091	7423	11361
1979-80	3041	7896	11733
1980-81	3232	7700	11721

Source: India, Economic Survey, 1968-69, 1974-75 and 1981-82.

(1) Of course, it must be remembered that production figures also reflect environmental and input factors. Thus, a year of low harvests may have been due to bad weather conditions or the farmers' incapability to provide the necessary inputs, rather than to any problem inherent in the seed technology.

As can be seen, wheat output in the Punjab rose rapidly in the early years of the Green Revolution -- by over 25 percent per year over the first four seasons. It then settled into a pattern of more restrained growth, in which yields generally increased from year to year, with only occasional setbacks (mostly in the early seventies, likely reflecting the sudden rise in input costs resulting from the first "oil shock"). What is to be noted, overall, is the fact that output quadrupled in the fifteen years following the introduction of HYV wheat seeds, a remarkable achievement.

However, while the production figures are definitely impressive, this does not necessarily imply benefits for all or an equitable distribution of profits. Accompanying the recent bumper crops, for example, has been the continuing problem of providing adequate storage facilities and marketing. Thus, according to the Far Eastern Economic Review, India now faces "Mountains of Trouble": Mohan Ram reports "... an acute shortage of warehouse space ... at present some 2.5 million tonnes of grain are stored in the open." (13 Sept 84:70) Due to the bumper crop of 1983, there is also a glut in supply, which has lowered the price of wheat on the open market, as a result of the subsidised price-level of the HYVs. Sales of the new varieties are slow, as the traditional grains are still preferred by consumers. The net result is a wheat surplus. At the moment,

exports are not a solution either, as they would have to be subsidised still further in light of the current low world market price (Ram, 13 Sept 84:70).

In order to judge the overall success of the Green Revolution, however, further questions have to be raised. Even if profits were guaranteed, the question remains as to how the gains are distributed. According to Juhl, all classes of farmers in the Punjab profited from the Green Revolution (Juhl, 1975:182), but the gains have been proportional to farm size: the richer a farmer, the more land he owns, the higher the gains. Keeping in mind the favourable land-man ratio mentioned above, it is conceivable that middle and low class farmers partook in the profits. This is disputed by Francine Frankel, however, who claims that, due to the disproportionately higher gains of the larger farmers, "the gap between the large and medium farmers has undoubtedly widened." (Frankel, 1971:39)

The consequences of the new seed technology on employment must also be evaluated. In this respect, Juhl notes that "Labour employment opportunities expanded not only for regional workers but also for the labourers from other states. Work conditions improved, working hours decreased, and wage rates also increased in monetary, as well as real, terms." (Juhl, 1975:187) While it seems obvious that with more intensive cultivation, more employment has been generated, one has to keep in mind that one

of the results of the new wealth due to higher output has been mechanisation by the richer farmers. Specifically, the use of tractors and harvest combines has had a notable effect in decreasing employment opportunities. Thus, S.S. Acharya points out that in Ferozepur, a district in the Punjab, even small farmers now tend to their own land instead of hiring labour. The policy of subsidising tractors or harvest combines has encouraged further unemployment, a point which is underlined by Michael Lipton as well as by H. Laxminarayan. The latter's findings lead him to conclude that

"While there is no social gain [from the use of tractors or harvest combines] in terms of increase in crop intensity or farm productivity, there is a net social loss in terms of labour displacement, which reduces employment opportunities for the casual labour force and more particularly for migratory labour coming from surplus labour areas." (Laxminarayan, 1982:46)

Nevertheless, there are authors who dispute the claim that mechanisation is labour-displacing. Etienne, for example, maintains that "... new seeds do require more labour, which can lead as in Punjab and also western Uttar Pradesh to an increase in real wages. As for mechanisation, at this stage it does not necessarily reduce manpower if it is associated with more irrigation, double cropping and new seeds." (Etienne, 1972-73:208) However, most authors refute Etienne's argument. Laxminarayan states that "Employment opportunities in agriculture due to irrigation and the seed fertiliser based technology could have been much greater but for extensive mechanization." (Laxminarayan, 1982:45) His findings are supported by Keith

Griffin (1972:63). Dasgupta, on the other hand, holds that "... while the mechanization of ploughing has displaced human labour, this has been more than offset by greater labour needs for fertilizer application, weeding, harvesting and other activities, and also due to an area double-cropped [sic]." (Dasgupta, 1977:364) But even he is still forced to admit that in the long run the increasing use of tractors and harvest combines will show negative effects on employment.

In conclusion, it can be stated that although the upper and middle classes of cultivators have profited in one way or another from the Green Revolution, "the benefits have been heavily weighted in favour of the large farmer ..." (Frankel, 1971:39). The fate of landless farmers and women will be investigated in the next chapter.

The Green Revolution in Andhra Pradesh and Tamil Nadu

All in all, it is not surprising that the Punjab, as the success area of the HYV-technology, has been better reported on than other states in India. In contrast, the case studies of Andhra Pradesh and Tamil Nadu have been less well studied, and the following discussion will be brief.

The states of Andhra Pradesh and Tamil Nadu were chosen as representative examples of the Green Revolution in southern, rice-growing areas. The most fertile agricultural land is found in the delta regions in both states. Irrigation was already well developed before the inception of the Green Revolution, and the

districts of West Godavari (in Andhra Pradesh) and Thanjavur (Tamil Nadu) were selected as the first for the implementation of the new technology in 1961.

Though both states, but especially Tamil Nadu (where tests promised higher yields than in Andhra Pradesh), appeared suitable for a Green Revolution programme, difficulties soon emerged. Unlike the Punjab, with its favourable land-man ratio, the delta areas of Andhra Pradesh and Tamil Nadu are very densely populated. The latter, for example, features a population density of 900 persons per square mile (Frankel, 1971:82). In Andhra Pradesh, large farmers -- those with holdings above 10 acres -- amount to only 15 percent of the farming population, while medium farmers -- those with land between 5 and 10 acres -- constitute only 14 percent (Frankel, 1971:61). The majority of farmers (71%) own less than 5 acres. This means that their holdings are too small to profitably utilise the new farming methods. The case of Tamil Nadu is similar: here, 73 percent of all landowners operate on less than 5 acres (Frankel, 1971:86). Medium farmers make up 15 percent, and only 12 percent hold more than 10 acres. It should also be kept in mind that these numbers do not include landless labourers. Thus, the majority of the landholdings are considered nonviable in terms of adopting the new seed technology.

A second problem in the implementation of the Green Revolution in these areas lies in the specific characteristics of rice HYVs. Unlike wheat, they are "subject to floods and droughts, to high humidity during the main growing season and to

more severe attacks by pests and diseases." (Parthasarathy and Prasad, 1974:187). The first-developed HYV-rice varieties -- IR 8 and IR 20 -- were not only unsuited to the deepwater conditions which usually occur during the monsoon (Farmer, 1979:312), but were also characterised by growth periods which stood in no relation to weather patterns. (Frankel, 1971:50-51) Additionally, there was poor consumer response to the early HYVs.(1) Thus, while initially the Green Revolution in Thanjavur was somewhat of a "showpiece", it soon fell back to the level of Andhra Pradesh.

Table IV.4: Andhra Pradesh -- Rice, Wheat and Total Cereals Production, 1965-81 (thousand tonnes).

Year	Rice	Wheat	Total Cereals
1965-66	3961	2	5980
1966-67	4853	3	7462
1967-68	4793	3	7224
1968-69	4341	3	6597
1969-70	4700	4	7137
1970-71	4286	10	6956
1971-72	4717	11	6911
1972-73	4257	10	6408
1973-74	5352	13	7950
1974-75	5700	18	8668
1975-76	6451	22	9007
1976-77	4930	14	7124
1977-78	5605	12	8652
1978-79	7432	13	10261
1979-80	6307	10	9201
1980-81	7134	9	9601

Source: India, Economic Survey, 1968-69, 1974-75, and 1981-82.

(1) Later, indigenous HYVs, such as Jaya, Ratna, Jagannath, Pankaj and CR70, eliminated some of these problems: (Farmer, 1979:309) In Tamil Nadu, the indigenously developed variety ADT 27 proved quite successful (Frankel, 1971:93).

Table IV.5: Tamil Nadu -- Rice, Wheat and Total Cereals Production, 1965-81 (thousand tonnes).

Year	Rice	Wheat	Total Cereals
1965-66	3709	0.5	5157
1966-67	4076	0.5	5693
1967-68	4291	0.5	5835
1968-69	3940	0.4	5323
1969-70	4532	0.4	6130
1970-71	5303	0.5	6858
1971-72	5302	0.7	6789
1972-73	5569	0.4	6975
1973-74	5595	0.4	7068
1974-75	3575	0.6	4683
1975-76	5203	0.7	7056
1976-77	4215	0.6	6160
1977-78	5705	0.6	7554
1978-79	5559	0.6	7384
1979-80	5760	0.5	7467
1980-81	3975	0.4	5397

Source: India, Economic Survey, 1968-69, 1974-75 and 1981-82.

The various difficulties encountered with the Green Revolution technology are reflected in the production figures for Andhra Pradesh and Tamil Nadu (see Tables IV.4 and IV.5). As can be seen for Andhra Pradesh in Table IV.4, after the initial boost in output subsequent to the introduction of HYV rice seeds, production stagnated for several years. While yields increased substantially once again in the early seventies, this upward trend was subject to large fluctuations -- often in the range of 15 to 25 percent from year to year. In the case of Tamil Nadu, the growth in output was more gradual and stable, with the exception of some rather large drops in the seventies. Overall, production increased roughly 80 percent in Andhra Pradesh and 55

percent for Tamil Nadu during the period of 1965-81. These figures are hardly exceptional, and compare rather poorly with the increase noted above for wheat in the Punjab, which was in the order of 300 percent over the same time-span.

In light of all these problems, the expensive requirements (such as fertilisers and pesticides) associated with the new seeds proved a further deterrent and led to a rather reluctant adoption of the new strategy in both states. Middle class farmers, for instance, feared crop failure, and they often had neither the time nor the resources to provide the needed inputs. This situation was further aggravated by a credit system which clearly favoured the wealthier. Frankel, Parthasarathy and Prasad point out that, although the smaller farmers can theoretically borrow from the Central Cooperative Banks, they are naturally considered poor loan risks, and can rarely obtain the required credit (Frankel, 1971:66, Parthasarathy and Prasad, 1974:91).

Thus, once again, gains of the HYV package are found only among middle and upper class farmers. The large cultivators are able not only to provide the required investments, but can also run the risk of a failed harvest. In Andhra Pradesh, such farmers are clearly a numerical minority: in West Godavari, for example, "... only 15 percent of cultivators have holdings of 10 acres or more, but this small minority operates 50 percent of the total cultivated area." (Frankel, 1971:71) In Thanjavur, only 12 percent hold more than 10 acres; but again, their land amounts to

40 percent of the total cultivated area (Frankel, 1971:86). As in the Punjab, the biggest farmers in the rice-growing states, with holdings of 20 acres or more, also reap the highest profits.

Frankel's findings are corroborated for Andhra Pradesh in a village case study by G. Parthasarathy and D.S. Prasad. They too note a significant difference "...between the rate of adoption of the farmer with four hectares and above and the rest ... even in the seventh year of progress of HYV ..." (Parthasarathy and Prasad, 1974:184). The rural gap which separates the upper class farmers from the rural lower classes finds its expression not only in the higher consumption and mechanisation levels of the rich, but also leads to their monopoly of rural technology. As Lipton (1978) demonstrates, the situation is similar in Tamil Nadu. One should keep in mind that many farmers own plots which are too small to be viable and thus have to rent additional land. Estimates of the percentage of these tenants among farmers range from 14 to 50 percent in West Godavari (Frankel, 1971:61 -- figures for the whole state are unavailable). One should also not forget the poorest group among agricultural workers, the landless labourers: their percentage of agricultural workers in West Godavari is as high as 60 percent.

In terms of the effects of the Green Revolution on employment in Andhra Pradesh, Frankel as well as Parthasarathy and Prasad do note some improvement in terms of increased opportunities for work, but no increase in real wages (Parthasarathy and Prasad, 1974:196; and Frankel, 1971:72). In

Tamil Nadu, on the other hand, it appears that employment opportunities diminished (Frankel, 1971:106). As corroborated by Gita Sen (1982:51ff), this is mainly due to the "proletarianisation" process which displaced many small farmers and led to a surplus population of agricultural workers.

Overall Assessment

These three case studies should be sufficient to demonstrate that the hopes associated with the "trickle-down" approach were not fulfilled. Nevertheless, several issues have been left untouched by this discussion, and thus an overall assessment of the Green Revolution strategy will now be presented.

To begin with, we will examine whether the new seed technology inherently favours the larger farmers, or if this is not the case, how it ends up favouring the upper classes. The question follows as to whether the Green Revolution is an "appropriate" technology. It is thus necessary to examine whether critical claims such as Pearse's are overstated or reflect the reality of the Green Revolution. As he maintains,

"... technology will inevitably play an increasingly important part in agricultural production, but ... the main principles of the strategy adopted for introducing the technology are inadequate for the developmental needs of the mainly rural countries concerned and harbour a potential for increased pauperisation and social conflict." (Pearse, 1977:126-127)

In order to assess the adequacy of this development strategy, the economic as well as the socio-political ramifications have to be investigated. The issue of employment, briefly touched upon in the case studies, will be examined in a wider context. Finally, the question arises as to why the Western countries so enthusiastically promulgated the spread of the new technology. While some authors such as Lester Brown (1970) attribute this to pure altruism, it is difficult not to suspect ulterior and more mundane motives, particularly in light of the specialised inputs necessary. Therefore, an attempt will be made to pinpoint the role of the multinational² firms in the spread of this development strategy.

While all authors agree that the larger farmers are usually the first ones to adopt the new technology, there is still some debate as to whether the Green Revolution is neutral to scale or not. Gershon Feder and Gerald O'Hara, for example, state that because the technology is divisible, it can theoretically be adopted by all farmers (Feder and O'Hara, 1981:59).

If this is actually the case, how can one explain the differential adoption rates noted above? An obvious answer is that although the technical inputs are theoretically divisible, they have fixed costs which only the upper class farmers can afford. Although cooperative banks and other credit institutions have been set up in all states in which the new seed technology has been adopted, Frankel's (1971) study amply proves that they generally favour the bigger farmers.

It also has to be kept in mind that the new technology fundamentally changed traditional agricultural relations -- it signified an important "cultural leap" to modern market relations (Pearse, 1977:145). This commercialisation of agriculture brings with it new dependencies, and many farmers find themselves at the mercy of the vagaries of supply and demand. Not infrequently, they encounter "input constraints": the supply of fertilisers, pesticides, tractors and other machineries cannot keep up with the rate of expansion of the Green Revolution (Dasgupta, 1977:356).

Among other things, the creation of this new "industrial agriculture", as Dahlberg (1979) calls it, implies heightened competition among the farmers from which the weak (the poor) are automatically excluded. As only upper class farmers -- usually owning ten hectares or more -- command sufficient resources to afford the package of inputs required, the gap in rural incomes widens. With the high profits gained from the Green Revolution, it often becomes lucrative for bigger farmers to work the land themselves, which had previously been rented out. Not infrequently, tenants are displaced in such manner to avoid the implementation of land reforms. Furthermore, "Mixed owner-tenants are subjected to a special squeeze being first impoverished as HYV's render tenancy resumption profitable, then driven into debt by the high cost of HYV farming, and ultimately made landless when risks go sour and permit foreclosure."

(Ladejinsky in Lipton, 1978:326) Such situations have led Pearse

(1977:148) to conclude that Green Revolution-style development carries with it a "dynamic poverty-generating principle." Thus, while traditional caste relations already implied dependence, this situation is now often exacerbated.

Due to the fact that the poorer sections of the rural population cannot afford mechanisation, the much greater labour-intensiveness of the HYV technology over traditional methods also proves to be a deterrent. While this in itself does not pose a problem, many middle and lower class farmers have limited family labour and time at their disposal, and do not have the means to hire outsiders. Another problem which has already been mentioned is the inadequacy of infrastructure -- storage and transport facilities -- which adds to the risk of losses.

The result of all this is that, despite hypothetical credit availability, guaranteed irrigation and subsidised prices, the implementation of the HYV's involves risks which many farmers are ill able to afford. Thus, although the technology may well be neutral to scale, this does not mean that it can be adopted by all classes of farmers.

In the context of judging the appropriateness of the Green Revolution for India, the employment issue needs to be investigated in fuller detail. India is often characterised by liberal development thinkers as a country of vast human resources, and the central question for them is thus whether the development strategy is geared towards this labour power. When discussing the case study of the Punjab, it was demonstrated how

mechanisation affects employment in a detrimental manner. This need not be repeated here, as these findings can basically be transposed to the whole of India.

As such, one can state that while the Green Revolution augmented labour requirements considerably, this is counter-balanced in the long run by the increasing use of mechanisation and thus the displacement of labour. There is nonetheless an inherent danger in treating the marginalisation of large groups of the peasantry as only an employment problem. Consequently, studies which focus on the employment effect, and use it to justify the new seed technology, should be regarded with caution.

Before providing further assessments, some of the regional and environmental ramifications of the Green Revolution will be looked at. The economic disparities which ensue from the Green Revolution have already been dealt with in the case studies, but regional inequalities are also often mentioned as a side-effect of the development strategy. In 1971 Frankel noted that the "intensive area approach" chosen by the Indian government "would accentuate regional disparities in development" (Frankel, 1971:9). This was confirmed in later studies (cf. Dahlberg, 1979:89 and Dasgupta, 1977:370).

Another important issue in judging the benefits or disadvantages of the Green Revolution concerns its ecological effects. In many areas where HYV's have been adopted, they have totally replaced previously grown varieties, and biologists warn

that the resulting uniformity carries certain dangers with it (Wilkes and Wilkes, 1972: 33). Plant epidemics could spread rapidly and lead to crop failures.⁽¹⁾ A second problem of the HYVs is that, while they yield much more than traditional varieties, their content in protein is much lower. Thus, "many nutritionists consider the Green Revolution a protein disaster" (Humphrey and Buttel, 1982:213). Often the new seeds lead to an abandonment of the cultivation of legumes, which exacerbates the protein problem, and some nutritionist fear lowered protein production in Asia (Perelman, in Humphrey and Buttel, 1982:213).

Other ecological effects do not concern the HYVs themselves, but the requirements which accompany the Green Revolution. The need for irrigation is such a case; some scientists fear that the increasing demand for irrigation may lead to a decline in water tables. Furthermore, "... there are some indications that large dams and increases in irrigation ... may have an impact upon climate, rainfall, and monsoon patterns." (Dahlberg, 1979:83) Likewise, the high requirement of fertiliser and pesticides is not unproblematic. Among other things, their continuous use will lead to a decline in soil fertility (Dahlberg, 1979:119). Problems of environmental deterioration are often conveniently ignored in studies of the Third World, and therefore no conclusive evidence of the long range effects can be

(1) Although so far India has been spared such a disaster, the "southern corn blight" which destroyed approximately one-fifth of the U.S. corn crop in 1970 points to the serious dangers which accompany monocultures.

cited. More attention is given to the dependency on the highly industrialised inputs which the necessity of fertiliser and pesticides creates. As Dahlberg and Pearse point out, the "man-made varieties" (Pearse, 1977:217) require "... most of the trappings of modern industrial agriculture ...", which are usually not produced locally.

The question thus arises whether, and to what extent, multinational corporations benefit from the Green Revolution. The Ford and Rockefeller Foundations were the main supporters of the early stages of research and implementation of the Green Revolution. While multinationals themselves were not at first involved, once they discovered the potential profits inherent in this development strategy, they did not hesitate to move in. Fertilisers, in particular, which account for 45 percent of Third World expenditures on inputs in 1973 (according to the U.N. Food and Agricultural Organisation, cited in Turner, 1973:150), offered lucrative profit potential. Although in 1973 fertiliser companies were not yet very visible, pesticide subsidiaries were much more in evidence (Turner, 1973:151).

Multinationals also profit from increasing mechanisation. The first firms selling their standard four-wheel tractors were European and American -- "This has infuriated many development economists who, as well as being worried about the labor-saving aspects of tractors ... have accused the companies of selling very expensive machines to small farmers who have neither the know-how nor the money to repair them when they break down."

(Turner, 1973:152) The situation has improved since Japanese firms such as Honda moved into the market with smaller, more appropriate machines, such as the two-wheeled, walk-behind tractor.

While it is difficult to isolate the actual involvement of multinationals in the Green Revolution, it can be stated in summing up that the new technology is "... compatible with the interests of a large section of multinational capital, particularly the multinational firms which specialise in producing petro-chemicals and farm machinery." (Dasgupta, 1977:378) In the case of India, Dasgupta points out that "... although the adoption of the new technology has expanded the market for imported fertilizers, pesticides and various types of farm machinery, the multinational corporations have not been allowed to play any part in the implementation of the HYV programme." (Dasgupta, 1977:379) Specific data concerning the presence of multinationals involved in the Green Revolution in India could not be obtained, but Perelman's observation that "Capital-scarce Third World countries could not afford their own fertilizer plants, and the refusal of international agencies to lend money to underdeveloped countries to build such plants forced them to depend on U.S. plants, either through imports or by allowing the construction of foreign-owned domestic plants" (Perelman, in Humphrey and Buttel, 1982:214) probably holds true in India as well.

Some of the proponents of the Green Revolution do

acknowledge several of the problems of this technology. In their opinion, however, the benefits -- especially the relief from the imminent food crisis which was facing India -- outweigh the disadvantages (cf. Brown, 1970, Johl, 1975). This controversial argument requires some scrutiny. While the initial success of the HYV's between 1966 and 1971 served to alleviate the impending food crisis in India by decreasing food imports by one quarter (Griffin, 1972:128), two factors have to be kept in mind. Firstly, this success was due mainly to the phenomenal wheat harvests, and secondly, the grain output of the HYV's stagnated after 1971 (Dasgupta, 1977:47ff). Although it seems obvious that the HYV's saved India from the risk of famine, this assumption has not gone unchallenged. Cleaver and Dahlberg both raise the question of whether traditional varieties -- had they received the same intensive care which benefitted the HYV's -- would not have yielded similar results. They both suspect that the achievements of the new technology have been overstated. Furthermore, the short term emphasis on high productivity is a misleading approach. It implies a bias towards large landowners, thereby neglecting the issue of distribution. In light of its pauperising effects, however, one can assume that in the long run, the HYV technology will exacerbate the food problem for the impoverished masses.

In conclusion, it can be stated that "... to be most productive, the new varieties require most of the trappings of modern agriculture" (Dahlberg, 1979:49). As the case studies

amply demonstrate, only the richer farmers have sufficient capital at their disposal to invest in these "trappings", which range from tubewells to pesticides. Although some cases have been recorded where middle class farmers adopting the technology have achieved gains, they are foremost from the Punjab, and constitute a minority. The upper class agriculturalists are the ones who usually reap the profits from the new technology, which leads to an increasing disparity in rural incomes. In terms of furthering the situation of the rural population, this strategy is inadequate. Although the adoption of the HYV technology does not implicitly require mechanisation, the much higher labour needs imposed by the new strategy, the insecurities of the labour market, and the high profits reaped by some farmers are all conducive to the implementation of mechanisation. While some aspects of this, such as tubewells, seem predominantly beneficial, other aspects have a long term negative effect on employment, which further widens the rural income gap. Thus, judged in terms of being geared to Indian labour conditions, the Green Revolution appears inappropriate.

The ecological hazards connected with this strategy should also be carefully evaluated, though they can of course be considered as integral features of "industrial agriculture". As Cleaver notes rather pointedly, "It is one thing to kill a few bald eagles. It is quite another to poison fish ponds and their protein supply by spraying rice fields." (Cleaver, 1978:231)

From the preceding analysis, it was not possible to establish the extent to which multinationals have benefitted from the Green Revolution in India. While comments such as Cleaver's that "... the development of this new technology is very much part of the American elite's attempt to direct the course of social and economic development in the Third World" (Cleaver, 1978:227) should be kept in mind, such claims cannot be directly substantiated. More to the point than such sweeping generalisations, however, are critiques which address the fundamental orientation of this brand of development. Dahlberg, for instance, points out that "... in addition to the seeds, the whole Western approach to agriculture, with all its built-in assumptions and physical requirements ..." has been exported. He rightfully recognises the need for "Shifting our agricultural thinking from the rather ethnocentric way in which most economists discuss the probable impact of agricultural innovations upon the developing world to a more empirically based approach." (Dahlberg, 1979:70) Despite the fact that the Green Revolution appeared to alleviate the risks of a food crisis, this has been revealed to be a cover up for the dynamic class contradictions which are generated.

Finally, while the appropriateness of the Green Revolution has already been investigated in several respects, it is still possible to debate the very nature of the approach: indeed, the point remains as to whether "strategies from above" (Dahlberg, 1979: 51, ff.) can ever be suitable. The problems which have

arisen with the implementation of the Green Revolution amply demonstrate that a development strategy based on research in ideal laboratory setting and in isolation from real field conditions is bound to run into problems. Taken one step further, the problematique condenses into the question of whether development strategies devised in violation of local conditions can ever be "appropriate". The Green Revolution led to increasing rural proletarianisation. The next chapter will investigate how women fared in this process.

References to Chapter IV

- Blyn, George (1983). "The Green Revolution Revisited". *Economic Development and Cultural Change*, XXXI, #4 (July):705-725.
- Brown, Lester (1970). *Seeds of Change -- The Green Revolution and Development in the 1970s*. New York: Praeger Publishers.
- Cleaver, Harry (1978). "The Contradictions of the Green Revolution". In C. Wilber (ed.), *The Political Economy of Development and Underdevelopment*, pp. 223-233. New York: Random House.
- Dahlberg, Kenneth (1979). *Beyond the Green Revolution -- The Ecology and Politics of Global Agricultural Development*. New York: Plenum Press.
- Dasgupta, Biplab (1977). *Agrarian Change and the New Technology in India*. Geneva: United Nations Research Institute for Social Development.
- Elliot, John (1985). "'Green Revolution' Helps Breed Sikh Unrest." *Financial Times*, Sept. 17, 1985, p. 4.
- The Economist* (1984). "India's Agriculture: The Green Revolution Marches on". 18 Aug 84:56-59.
- Etienne, Gilbert (1973). "India's New Agriculture: A Survey of the Evidence". *South Asian Review*, VI, #3 (April):197-213.
- Farmer, B.H. (1979). "The 'Green Revolution' in South Asian Ricefields: Environment and Production". *The Journal of Development Studies*, XV, #4 (July):304-310.
- Feder, Gershon and O'Hara, Gerald (1981). "Farm Size and the Diffusion of Green Revolution Technology". *Economic Development and Cultural Change*, XXX, #1 (October):59-76.
- Frankel, Francine (1971). *India's Green Revolution: Economic Gains and Political Costs*. Princeton, N.J.: Princeton University Press.
- Griffin, Keith (1972). *The Green Revolution: An Economic Analysis*. Geneva: United Nations Research Institute for Social Development.

Humphrey, Craig and Buttel, Frederik (1982). *Environment, Energy and Society*. Belmont, Calif.: Wadsworth Publishing Company.

India, Ministry of Finance (1968-69, 1974-75 and 1981-82). *Economic Survey*.

India, Ministry of Information and Broadcasting, Research and Reference Division, Publications Division (1982). *India: A Reference Annual, 1982*.

India, Ministry of Planning, Department of Statistics, Central Statistical Organisation (1979). *Statistical Abstract, India, New Series #24*.

India, Planning Commission (1969). *Fourth Five Year Plan, 1969-74 Draft*.

India, Planning Commission (1960). *Third Five Year Plan -- A Draft Outline*.

Johl, S.S. (1975). "Gains of the Green Revolution: How They Have Been Shared in Punjab". *Journal of Development Studies*, XI, #3 (April):178-189.

Laxminarayan, H. (1982). "The Impact of Agricultural Development on Employment: A Case Study of Punjab". *The Developing Economies*, XX, #1 (March):40-51.

Leaf, Murray (1983). "The Green Revolution and Cultural Change in a Punjabi Village, 1965-1978". *Economic Development and Cultural Change*, XXXI, #2 (January):227-270.

Lipton, Michael (1978). "Inter-farm, Inter-regional and Farm-non-farm Income Distribution: The Impact of the New Cereal Varieties". *World Development*, VI, #3 (March, Special Issue on "Poverty and Equality"):319-337.

McLeod, Hew (1975). "Sikhism". In A.L. Basham (ed.), *A Cultural History of India*. Oxford: Clarendon Press.

Palmer, Ingrid (1972). *Food and the New Agricultural Technology*. Geneva: United Nations Research Institute for Social Development.

Parthasarathy, G. and Prasad, D.S. (1974). "Responses to, and Impact of, H.Y.V. Rice According to Land Size and Tenure in a Delta Village, Andhra Pradesh, India". *The Developing Economies*, XII, #2 (June):182-198.

Pearse, Andrew (1977). "Technology and Peasant Production: Reflections on a Global Study". *Development and Change*, VIII, #2 (April):125-159.

- Ram, Mohan -(1984). "Mountains of Trouble". *The Far Eastern Economic Review*, 13 Sept 84:70.
- Randhawa, M.S. (1974). *Green Revolution: A Case Study of Punjab*. Bombay: Vikas Publishing House Pvt. Ltd.
- Sen, Gita (1982). "Female Workers and the Green Revolution." In Lourdes Benencia (ed.), *Women and Development: The Sexual Division of Labor in Rural Societies*. New York: Praeger Publishers, pp. 29-64.
- Singh, Indera (1959). "A Sikh Village". In M. Singer (ed.), *Traditional India: Structure and Change*, pp. 277-297. Philadelphia: The American Folklore Society.
- Turner, Louis (1973). *Multinational Companies and the Third World*. New York: Hill and Wang.
- Wilkes, G. and Wilkes, S. (1972). "The Green Revolution". *Environment*, XIV, #8 (October):32-39.

CHAPTER V

The Effect of the Green Revolution

on Women

Introduction

This chapter will provide an overview of the effect of the Green Revolution on rural women's lives in the states of Punjab, Andhra Pradesh and Tamil Nadu. As there are only a few case studies dealing specifically with the HYV technology's impact on women, evidence from neighbouring states is cited to complement the picture, when needed. Regional variations will also be accounted for wherever information is available.

Given the often-stressed fact that women do not operate in isolation, ~~they~~ they are discussed as members of a household economy. One has to keep in mind that "In agrarian societies the family is the unit of production." (*Towards Equality*, 1974:149) In addition, class and caste specifications will be considered. As will be shown, the introduction of the Green Revolution had very different effects on the women of rich families and on agricultural labourers.⁽¹⁾ Because the declared objective of this thesis is to investigate the impact of the HYV technology on

(1) While in a broad sense, women from middle-class families who work on their family's fields could also be understood as agricultural labourers, this term will from now on be used to refer to poor women who are forced to hire themselves out.

rural women's lives in the three states in question, women's experiences will not be reduced to an "employment problem". Thus, while women's contributions as producers will be delineated within a wider socioeconomic framework, they will not be left "invisible": the whole range of their activities will be highlighted.

The significance of patriarchal ideology will also be discussed, with reference to the varying classes. This sets the context for a critical examination of the issue of "domestic" work. For employed women, the investigation will be placed within the wider setting of the mechanisms of the segregated labour market. This means that the relative position of women vis-a-vis men will be examined. Where information is available, the impact of this specific brand of development on wages will also be detailed.

Overview of the Situation of Rural Women

-----in the Punjab, Andhra Pradesh and Tamil Nadu

Before turning to the class-specific analysis, a broad overview of the changes in "cultivators" and "agricultural labourers" between 1961 and 1971 will be provided. The problems of comparing data from both periods have been outlined earlier. In order to make up for statistical deficiencies, adjustments, derived from the Resurvey cited in Chapter III (Tables III.5 and III.6) will also be used. The data on the sex composition of the agricultural population will allow for some insight into women's

situation vis-a-vis men's in India and in the three states selected. Unfortunately, the data presented in Table V.1 cover only the three categories of cultivators, agricultural labourers and other workers. It is nowhere specified exactly what differentiates the category of "cultivators" from that of "labourers". As more detailed information is not available, one can only assume that "cultivators" signify the self-employed rich to middle class farmers, while farmers who are forced to hire out their labour power make up "agricultural labourers". "Other workers" refers to that part of the population not engaged in farming activities.(1) While such superficial and vaguely demarcated distinctions have been criticised elsewhere in this thesis, they unfortunately prevail in the Indian literature.(2)

(1) In the discussion of female workers, it would have been desirable to include these obscure "other workers", especially in light of the immense increase in the category in the Punjab between 1961 and 1971. Unfortunately, it is nowhere specified what kind of professions are represented by this category. Thus, a discussion of this category would be too speculative to be of much use.

(2) As a matter of fact, a more extensive occupational breakdown exists for 1961, but it cannot be used here: firstly because no comparable data exist for later years, and secondly, the earlier Census includes what is today the separate state of Himachal Pradesh under the territory of the Punjab. Therefore, only the rather rudimentary division of the population into the three categories noted above can be presented for 1961 as well as 1971.

Table V.1: Share of Cultivators, Agricultural Labourers and Other Workers in the Total Workforce, 1961 and 1971 (percentage)

		Cultivators		Agricultural Labourers		Other Workers	
		1961	1971	1961	1971	1961	1971
India	Persons	60.32	50.88	18.87	29.98	20.81	19.14
	Male	61.02	56.05	15.77	24.92	23.15	19.03
	Female	58.84	30.86	24.84	49.55	16.32	19.59
Andhra Pradesh	Persons	44.53	36.49	31.34	41.68	24.13	21.83
	Male	47.11	43.78	24.63	31.39	28.26	24.83
	Female	40.87	20.82	40.83	63.70	18.30	15.41
Punjab	Persons	57.54	53.97	11.94	24.75	30.52	21.28
	Male	57.84	54.96	12.47	24.92	29.69	20.12
	Female	54.36	6.10	6.41	16.56	39.23	77.34
Tamil Nadu	Persons	50.97	39.91	21.81	36.46	27.22	23.63
	Male	53.14	45.77	17.75	30.80	29.11	23.43
	Female	47.35	22.53	28.59	53.24	24.06	24.23

SOURCE: Census of India, Provisional Population Total, Paper I of 1971, Supplement, pp. 30-33.

In chapter III, it was stated that the definition of "secondary worker" changed between 1961 and 1971. Women engaged in agriculture "part-time" were not included in the 1971 Census. As most women do not consider themselves "full-time" farmers due to their domestic responsibilities, this led to a drastic undercounting of economically active women (Seal, 1981:26). While this difference certainly diminishes the impact of the change appearing in Table V.1, adjustments will be made later in order to account for the statistical imbalances. To start off with, however, the data presented in Table V.1 will be discussed. As noted earlier, in both periods the proportion of female as well as male cultivators in all three states are below the

all-India average(1) while the proportions of agricultural labourers of both sexes are, with the exception of the Punjab, consistently above it. It is interesting to note that the percentages of "other workers" remained relatively stable, the exception being again the Punjab, which shows a marked increase in females. It is significant, however, that female agricultural workers increased proportionately much more sharply than male agricultural workers.

The rather drastic transformation of the agricultural labour force in the Punjab during this period is rather puzzling and defies easy interpretation. In 1961 the state had the highest, and in 1971 the lowest, proportion of women classified as cultivators; using 1961 as a base, the decline amounts to 89 percent. The number of female agricultural workers went up by 459 percent (from 6.4 to 16.6%), and that of "other workers" shows a similar increase. The high incidence in 1961 of female cultivators has been explained by the fact that women held land, but only nominally; they were given ownership titles in order to circumvent the legal ceilings on land holdings, and thus to avert the effects of land reform (Sen, 1982:47). Their decline has to be attributed in part to the proletarianisation effect of the Green Revolution, according to which some female cultivators have been forced from the land and now have to seek agricultural or even "other" work. It may also have been due to the fact that in

(1) The higher overall percentage is explained by the inclusion of Himalayan and North Eastern Hill populations, among which "female farming systems" prevail (Boserup, 1970:24).

1971 upper class families could afford to withdraw female cultivators from the labour force and place them in seclusion. The women of the increasingly impoverished middle and lower classes, on the other hand, were forced to join the ranks of farm workers. As Ursula Sharma (1980:116) points out, statistics do not indicate whether women are "... really withdrawn from agricultural work, or are they squeezed out of agriculture by the expansion of a technology which is controlled by and disseminated by men?" [emphasis added]. The staggering decline in the rate of cultivators can only in part be accounted for by the omission in 1971 of women for whom paid work is a secondary activity. Using the difference between the Census and the Recensus values provided by Kalpana Bardhan (1977), the adjustment factor for each worker category can be assessed. The resulting percentages, presented in Table V.2, can be compared with those given in Table V.1. While the adjustments do not guarantee exact comparability between the 1961 and 1971 Census data, they allow at least for a close approximation of the real changes which occurred during this period. With an adjustment factor of 18 percent, the decline in female cultivators in the Punjab is not as pronounced as it was before, but it is still very substantial (71% as against 89%). However, female cultivators in Andhra Pradesh and Tamil Nādu are not as drastically affected. In each of the latter two states, the proportion dropped by about one third, compared to about 50 percent without adjustment. It is rather surprising and unexpected that female cultivators were less

affected by the Green Revolution in Andhra Pradesh and Tamil Nadu than they were in the Punjab. After all, the wheat-growing state of the Punjab is usually held up as an example of the success of the Green Revolution, while the southern rice-cultivating states supposedly fared worse. If this is indeed the case, then female cultivators in the Punjab have certainly not benefitted from it.

Table V.2: Adjusted Values for the Male and Female Labour Participation in India, Punjab, Andhra Pradesh and Tamil Nadu

		Decrease in Cultivators Between 1961 and 1971	Increase in Agricultural Labourers Between 1961 and 1971
India	Male	8%	58%
	Female	30%	88%
Punjab	Male	5%	50%
	Female	71%	148%
Andhra Pradesh	Male	7%	27%
	Female	71%	45%
Tamil Nadu	Male	14%	74%
	Female	34%	75%

The adjustment factor similarly lowered the increase in the number of female agricultural workers in each of the three states by 11 percent. However, it is worth noting that, despite this reduction, their numbers did go up substantially during the ten-year period, ranging from 45 percent in Andhra Pradesh, to 75 percent in Tamil Nadu, and even to 148 percent in the Punjab. Nevertheless, even the adjusted data do not establish conclusively that this increase is due solely to the pauperisation of female cultivators, and that it is thus attributable to the Green Revolution. As pointed out earlier for

the Punjab, the impact of the HYV technology could have led to a withdrawal of women at the top of the agricultural hierarchy, while women at the bottom of the echelon had to enter the labour force.

An examination of the situation of men should provide further indirect evidence as to what happened as a result of the Green Revolution. As the adjusted figures of Table V.2 show, compared to women, men fared decidedly better in all three states and in India as a whole. In the Punjab and Andhra Pradesh, during the ten-year period the number of male cultivators declined by only 7 percent, compared to 71 percent and 32 percent respectively for female cultivators. In Tamil Nadu, male cultivators decreased by 14 percent, but female cultivators by 34 percent. The picture is less clear-cut as far as agricultural workers are concerned. In Tamil Nadu, the increase (75 percent) is essentially identical for both men and women; only in Andhra Pradesh is the proportionate increase significantly lower for men than it is for women.

Based on the above statistical differences, it is reasonable to conclude that the agro-economic changes due to the Green Revolution affected women much more adversely than men. Of course, it could be argued that the census data have distorted the picture somewhat; the case of female cultivators in the Punjab would support such an interpretation. All evidence points to a traditionally low rate of female cultivators. Thus, to classify 54 percent of the women in the work force in this

category, as the 1961 Census does, is clearly an exaggeration. That their numbers diminish by 71 percent is more likely due the fact that land titles were signed back to male kin, and not that female cultivators in this state experienced a dramatic fall into poverty. The following sections on the effect of the HYV technology on women in the Punjab, Andhra Pradesh and Tamil Nadu shall therefore serve to either substantiate or refute the claim that the agricultural reform programmes had a stronger negative effect on women than on men.

Once again, it is necessary to be class specific in the analysis. As Sue Charlton (1984:89) reminds us: "The conditions of women's work are determined by the relationship of their household to the land, other means of production and wage income. In other words, caste and class set the framework within which gender defines tasks ...". The degree to which "gender defines tasks" will also be subject to discussion.

Thus, although most data concern the direct effect of the HYV technology on poor rural women workers, its indirect impact will also be investigated. Hence, the focus will be not only on employment, and thus the (female) rural proletariat, but also on how middle and upper class women fared due to the introduction of the new technology. For middle class women, the analysis will center on how their "domestic" --that is, non-waged-- labour changed: did their workload in the home and on the land diminish or increase, and what are the implications of this for the position of these women? As upper class and caste women do not

usually partake in farm work, attention will be brought to bear on how the norms governing their behaviour changed due to the Green Revolution. As seclusion is a status symbol of the upper castes, it will be interesting to determine whether the capitalist penetration represented by the HYV technology eroded traditions such as purdah, or reinforced such manifestations of patriarchal ideology.

The Effects of the Green Revolution on Women in the Punjab

To begin with, the effects of the Green Revolution on women in the Punjab will be investigated. It should be noted, however, that since few studies on this topic have been conducted for the Punjab, the scope of the analysis is somewhat limited. Even Gita Sen, in her article on "Women Workers and the Green Revolution" (1982:29-64), which deals with women in Haryana, the Punjab and Tamil Nadu, uses data mostly from Haryana when inferencing about the situation of women in the Punjab. It was therefore found advisable to follow her example and to supplement the evidence on the effect of the HYV technology on women in this state with data from neighbouring northern states. In order to validate some of the tentative findings on women in the Punjab, conclusions about the effect of the Green Revolution on women in Haryana and Uttar Pradesh are included in the analysis.

Preceding the examination of the distribution of women's tasks in the Punjab, regional and class variations within this state with respect to the FLP rate have to be elicited. In the

main Green Revolution area of the Punjab -- the districts of Ludhiana, Jullundur, Kapurthala, Gurdaspur, Patiala and Amritsar -- women have traditionally had a low participation rate (Sen, 1982:35). In the hilly regions of the old state of Punjab, however, women were more actively involved in farm work. The overall participation rate of women in the Punjab and Haryana can be derived from Table V.3; Tamil Nadu, a southern state, is included for comparative purposes.

Table V.3: Female Labour Participation Rates in 1971, (percent)

	Haryana	Punjab	Tamil Nadu
For all rural women	3.17	1.26	19.88
For women of small cultivator households	19.20	26.50	59.70
For women of rural labour households	17.80	38.90	60.30
For agricultural labourers as a percentage of total female workers	21.91	10.08	46.70
For agricultural labourers as a percentage of total agricultural labourers	7.54	1.36	36.67

SOURCE: Sen, 1982:36.

While the case of Tamil Nadu will be discussed in more detail later, it is interesting to note how much higher the rural women's participation rate is in this state: in Tamil Nadu it amounts to 19.88 percent, in contrast to 3.17 percent in Haryana; the lowest of the three is the Punjab, with 1.26 percent. In the last state, more than one quarter of all women of small cultivator households take part in farm work (26.50%); in Tamil Nadu, their counterparts amount to more than half (59.70%). The

highest numbers of agriculturally active women in the Punjab as well as in Tamil Nadu stem from the rural labour households. As can be seen, the participation rates of women farmworkers as a percentage of total female workers is lowest in the Punjab, at 10.08 percent, while it comes to 21.91 percent in Haryana. Tamil Nadu, with 46.7 percent, is the highest. The gap between the Punjab and Tamil Nadu widens even further when the percentage of female agricultural labourers as a share of total agricultural labourers is examined: in the northern state of Punjab, these women amount to only 1.36 percent, whereas they come to 36.67 percent in Tamil Nadu.

Despite the overall low FLP in the Punjab, women can be found in a broad range of labour processes. In some regions, women engage in leveling the fields, and work at spreading manure. In irrigation, they are usually responsible for applying the water, except in the prosperous north of this state. Planting and sowing are women's work, and they also hoe and weed in all regions of the Punjab. The heaviest part of their work is the harvest: in the north of the Punjab, men usually cut the wheat, while women are engaged in cotton-picking, and the harvest of corn, millet, groundnuts and sugarcane (Sen, 1982:35).⁽¹⁾

(1) Once again, while some upper caste/class women can be found who help out on the family land, this is mostly in a supervisory role (Sharma, 1987). Thus, the above pertains foremost to middle and lower class women.

There appear to be fairly well defined spheres of male and female activities. In a segregated labour market with a rigid sexual division of labour, one would hence not expect much inter-sex competition for jobs, and consequently women would not function as a reserve labour army. While this may be true for some Islamic countries, such as Bangladesh (cf. Whyte and Whyte, 1982:138-142), it does not reflect the situation in the Punjab. As Sen (1982:41) points out, there is quite a bit of flexibility in the sexual division of labour. In fact, the only task women usually do not engage in is ploughing (Charlton, 1984:89), whereas men in the Punjab -- as elsewhere in India -- refrain from helping with domestic chores (Sharma, 1980:130).

Before proceeding any further, it has to be determined what the differing effects of the Green Revolution are on various classes of women. Since no rigorous class analysis of women in the Punjab is available, and as the available Census data remain fairly unspecific, what follows must remain at a necessarily superficial level.

To start with the top of the hierarchy, it has already been mentioned that seclusion is a status symbol among the upper and middle classes of India.⁽¹⁾ This is confirmed for the Punjab by Zubeida Ahmad (1984:78), who states that: "...in rural northern,

(1) Some of the urban upper-class families orient themselves on Western values and ideas, and allow their daughters more latitude. Among them, one finds "Women entering the higher professions and services ..." (Dube in Ward, 1963:201). The rural upper-class families, however, do not follow these modern trends; here, "...women are largely confined to the domestic sphere." (Dube in Ward, 1963:200).

India ... men see ~~their~~ ability to withdraw women from paid employment and confine them to the house as an enhancement of their own social status." It is not usually something women resent, however. Work in the fields is viewed as a hardship, and is generally held in low esteem (Beteille, 1975:67). Hence, these women do not share "feminist concerns" of being excluded from agricultural production. This should not obscure the fact that seclusion implies female powerlessness, and is a supreme example of male domination and patriarchal control (cf. Beneria, 1979:209). As noted by Kamla Nath in 1965 (in Sharma, 1980:117), the trend towards withdrawing women from fieldwork is relatively recent in the Punjab.(1) While some authors ascribe this to the success of the HYV technology in this state (Sundar, 1981:866), others hold that it is due to a process of increasing prosperity which preceded this agricultural intensification (Sharma, 1980:16 and 119). Charlton (1984:90) believes that both explanations are valid: "For some households, the process may have been stimulated by the green revolution; but for many the process predated the revolution."(2)

Unfortunately, the question of whether or not the trend to

(1) In Sharma's Punjabi sample village, the rich Brahmin women are engaged in domestic work as wives, and the daughters are students in college or university (Sharma, 1980:60-61).

(2) Basically, this dilemma reflects the wider question whether the Green Revolution brought prosperity to the Punjab, or whether it was such a success because of the infrastructure the state was favoured with before the inception of the HYV technology (see Dahlberg, 1979:67).

increasing seclusion is due to the impact of the new seed technology cannot be resolved here. It is a fact, however, that the augmented prosperity of the upper classes in the Punjab did not lead to an erosion of traditions, as Western predictions would have suggested. Thus, while the upper class family as an economic unit profits, ~~the~~ intra-familial inequality between the sexes widens, and male dominance reaffirms itself in the maintenance of seclusion.

The assessments as to whether upper class/caste women have more free time after being withdrawn from farm work, or whether the focus of their activities simply shifts to other work, are equally divided. While Sharma (1980:118) attests that the majority of upper-class women "... enjoy and expect a more leisurely style of life", this is contested by Pushna Sundar (1981:866), who states that: "Withdrawal from the labour force did not necessarily mean more leisure for the women. They continue to make an economic contribution by keeping milch cattle and poultry at home as well as through better home and family maintenance." While it is possible that women perceive their life as easier or more leisured after being freed from farm work, it is doubtful that they actually work less. Pranab Bardhan (1978:21) in his case study of women in West Bengal, found that the time women spend in housework depends on the nature of the demands imposed on them by other work. When the agricultural workload slackens, these women tend to spend more time in domestic chores. The situation is likely similar for all of

India, including the Punjab. Last, but not least, it should be kept in mind that domestic work involves a number of farm related tasks, such as food processing, even for upper class/caste women.

It is easier to assess the effect of the Green Revolution on women from upper classes than on those from the middle classes. To begin with, it is hard to define what comprises the middle classes in the Punjab.⁽¹⁾ The only solution is to encompass all farmers between the rural rich and the rural proletariat in this category. This would include the medium to small farmers, namely those with holdings of less than 25 acres, and more than 10 acres, according to Frankel (1971:33 and 39).⁽²⁾

Middle-class families also incurred a considerable debt-load in order to adopt the new technology. So as to meet their increased expenses, some families sent out their women as agricultural wage labourers (Wichterich, 1985:4). Furthermore, it is conceivable that, due to the tendency on the part of landlords to resume cultivation of land formerly leased out, a number of middle class tenant cultivators joined the ranks of what Sharma (1980:120) euphemistically refers to as the

(1) Among these one can probably find a substantial number of "owner-cum-tenant cultivators" (Frankel, 1971:34). It should be noted, however, that this category can comprise upper- and lower-class families, as well.

(2) In Sharma's sample village, the majority of medium caste women stay at home, but a few are found in gainful employment, mostly as schoolteachers (1980:62-63). Those medium caste families, however, belong to the rich farmers as, according to Frankel's scheme, they all own more than 25 acres of land. While in the Punjab caste and class correspond fairly closely, they are not perfectly matched.

"downwardly mobile". These, together with small farmers with non-viable holdings -- those under 10 acres in the Punjab (Frankel, 1971:33) -- and the contingent of landless labourers, form the rural proletariat. As it is impossible to present a detailed picture of the effect of the Green Revolution on all women in the lower classes of the Punjab, the focus will from now on be on the agricultural labourers.

While many of the poorer tenant families suffered following the introduction of the HYV technology, it appears that the lot of the landless labourers improved, at least initially. As Frankel (1971: 35) points out, even before the Green Revolution "... during the peak harvest period, there was always a relative shortage of labor. Indeed, many farmers have traditionally relied on migratory workers from Uttar Pradesh to supplement the local labor force." Before the effects of mechanisation were felt, this demand for labour was even intensified.

The following section will investigate how the men and women of the agricultural labour force fared, and whether both profitted equally from the new technology. As Christa Vichterich (1985:4) points out, the women working in the agroecconomy of the Punjab stemmed traditionally from landless labour households.⁽¹⁾ In order to find out how both sexes were affected by the new technology, the positions which men and women occupy, and where

(1) This is confirmed by Sharma's sample: only the women of the poorest rural families, owning approximately one acre, hire themselves out as agricultural wage workers (Sharma, 1980:65-68).

they are located vis-a-vis each other in the agricultural hierarchy, need to be explored. It has been mentioned previously that women occupy the lower ranks of the agricultural work organisation and that they hold the worst paid positions (Das, 1976:143; Pateille, 1975:67). Due to the variations in the sexual division of labour between different regions of the Punjab, however, any attempt to rank and sex-type agricultural labour processes would be futile. The next aspect to investigate in order to obtain evidence about sex discrimination would be hiring processes. As Sen (1982:40) points out, men are preferably hired as permanent labourers, whereas "...traditionally women have formed a higher proportion of seasonal casual labor (at harvest time, for example) than of regular casual labor." In effect, as Sen's case study from Haryana demonstrates, in case of male unemployment, men are also the first to be hired as casual labourers, and women are only employed once the male labour pool is depleted.⁽¹⁾ Hence, women effectively serve as a reserve labour army. It should also be kept in mind that seasonal tasks are paid the lowest (Wichterich, 1985:4; Sen, 1982:46).

The question now arises as to how the Green Revolution

(1) According to Sen (1982:59fn.), a "permanent laborer is defined as one who has an annual or longer-term contract. The casual laborer is one who is hired on a daily basis. There are two types of casual agricultural laborers: the regular casual laborer, whose main occupation is agricultural labor, and the seasonal casual laborer, who work some days in the fields, especially during harvest time, but whose main occupation is not agricultural labor."

affected these different types of labourers. Sen (1982:44) finds that "the introduction of the new inputs has not reduced the demand for permanent labor ...". What have changed, though, are the labour processes. Mechanisation means that workers have to be trained to work with machines, and this training has been addressed to men. Dóranne Jacobsen (1976-77:225), examining the effects of the Green Revolution, confirms this by stating that, "Aided by male government change agents, men monopolize the new methods and machinery, while women continue to use the more laborious traditional methods -- or suffer unemployment."

Women's situation has changed in a two-fold fashion. Firstly a study stemming from the 1960's anticipated some of the changes for women's labour due to mechanisation in the Punjab: it found that pump sets for irrigation, wheat threshers and tractors all reduced the need for women's labour (Billings and Singh, in Charlton, 1984: 89). While no suitable harvest combines existed at the time the study was carried out, it was estimated by the authors that, should such a machine be developed, "... by 1983 or 1984, it would reduce human labor by one-third in the month of April, most of which would be casual women workers." Although no statistics are available to verify the extent this prognosis has proven true, a "mechanisation effect", displacing or reducing the need for casual labour, has definitely taken place (Sen, 1982:44).

Mechanisation thus either eliminated employment opportunities for women, or opened up new avenues for men alone. But a second effect also took place: due to agricultural intensification, the need for casual labour increased in certain tasks unaffected by mechanisation. More intensive or double cropping, sowing and harvesting, for example, call for a greatly increased number of female workers. The elimination of many of the traditional tasks done by women resulted in a "... narrowing of the range of tasks done by women [and] has probably caused a 'crowding' of women into a few jobs Women workers are now increasingly limited to those traditional jobs that have been minimally affected by the new technology, and to seasonal labor at harvest time." (Sen, 1932:46) Therefore, the situation improved for male farm workers; women, however, suffered from the effects of the Green Revolution. Not only did they lose employment opportunities, they were also relegated to the "backward" sectors of the economy. Employing Boserup's (1970:53) terminology, one can state that the "productivity gap" between the sexes widened. With the application of the new technology, women ended up at the bottom of the agricultural occupational scale. While they already occupied the lower ranks of the farmwork hierarchy preceding the agricultural innovations, they are now even further marginalised. The Green Revolution clearly exacerbated their position.

In order to examine whether these negative findings are perhaps limited to the Punjab and Haryana, some additional evidence from Uttar Pradesh will be considered. Govinda Kelkar's study (in I.L.O. 1981a:16-17) investigated "The Impact of the Green Revolution on Women's Work Participation and Sex Roles" in three villages in western Uttar Pradesh. The major findings of the study were that:

- due to the androcentric bias in development planning, women are marginalised and relegated to the position of "unpaid household helpers";
- within the structure of the agro-economy, men monopolise the new technologies while women continue to operate in the periphery, in traditional and often unpaid subsistence tasks;
- generally, the Green Revolution is characterised by an "antiparticipatory trend", barring women from the knowledge, skills or control pertaining to the new technology;
- overall, the HYV technology was found to intensify not only rural inequalities, leading to sharper class contrasts, but also to increase sex inequalities.

In conclusion, it can therefore be stated that, among ~~agricultural labourers, women lose from the HYV technology.~~ While the increased workload associated with the Green Revolution initially guaranteed more employment, only men benefitted from being included in the technological innovation process. Women, on the other hand, were effectively barred from it, and confined to the most menial and non-technological tasks. As Jacobsen (1976-77: 225) confirms: "... as men drive tractors and women

continue to carry headloads, the prestige of women relative to men declines."

It appears that the situation of middle-class women was also worsened. Although it is theoretically possible that "the use of the new technology may have released women from some traditional tasks on small farms [it] is more likely ... that the increased 'finance intensiveness' of the new technology has put such a premium on money incomes that women are being sent out from these households as agricultural wage labourers." (Sen, 1982:41) Alternatively, if not sent out, these women face an increasing work burden in their homes. It appears that the lot of the upper class women has not been influenced as strongly by the HYV technology in comparison to middle and lower class women. However, the fact that they are exempted from fieldwork and placed into purdah is in part attributable to the prosperity derived from the new seed technology. The fact that women themselves rather enjoy this privilege should not distract one from its reality: it is a symbol of patriarchal dominance, which allows for an effective control over all aspects of women's reproductive roles.

The Green Revolution and Women in Andhra Pradesh and Tamil Nadu

Once again, one encounters a lack of specific studies dealing with the situation of women in Andhra Pradesh and Tamil Nadu in general, and with the effect of the Green Revolution on these women in particular. For this reason, the women in both

states will be examined jointly in this section.

To begin with, the range of women's activities in paddy(1) cultivation will be elicited. Once again, there are regional and state variations, but no intensive study of the FLP within a particular locale is available. It is thus necessary to treat this subject in a somewhat broad manner. In order to provide an overview of women's tasks, the labour processes in rice farming will firstly be detailed.(2)

The first stage of wet-rice cultivation concerns the preparation of the field. The fields have to be ploughed, leveled, and the seed beds prepared. These tasks are carried out exclusively by men. The second stage revolves around the set-up and repair of the irrigation system. Essentially, this is also a male activity. While in Kerala, the next set of operations, the spreading of manure, is again the work of men, women are engaged in this work in Andhra Pradesh and Tamil Nadu (Mencher and Saradamoni, 1982:151). The subsequent stage entails the actual sowing of rice, fertilizing and weeding. Typically, this is women's work. The transplanting of rice which follows is an

(1) In Tamil, the language spoken in Tamil Nadu, the word "paddy" refers only to rice ready for consumption. There are different words for rice connoting the various stages of growth. In English, however, the term came to be used for rice in general, and will be employed loosely in this thesis.

(2) This particular example was taken from a case study of a low-caste woman worker in Kerala (Gulati, 1982:17-19). Where there are differences in the sexual division of tasks between Kerala, Andhra Pradesh and Tamil Nadu, they have been accounted for. Generally, the labour processes involved in wet-rice cultivation are similar.

exclusively female task. Interestingly enough, this type of work proves that the sexual division of labour does not correspond to physical capacities; on the contrary, there is repeated evidence that the physically more-exerting work is reserved for women.(1) The following quote by a male agricultural labourer illustrates this point: "No man can keep standing bent over all day long in the mud and rain. It is much too difficult, and our backs would hurt too much." (Mencher and Saradamoni, 1982:151-152) Weeding, the next task, is also a female domain, but employs a considerably smaller number of women than transplanting. Usually, however, two weeding sessions take place. While in Leela Gulati's study village, harvesting was a largely male-dominated operation, this is an unusual pattern. Mencher and Saradamoni (1982:151), who studied women's involvement in the production and processing of paddy in six villages in Kerala, Tamil Nadu and West Bengal, found that most of the operations in paddy cultivation, including onerous work such as harvesting "... tended to be performed by Harijans or tribals, and (apart from ploughing) by the females within these groups."(2)

After the harvest is brought in, women's work continues with the processing of rice. This encompasses threshing (often including the preparation of the threshing floor), winnowing,

(1) Compare this to statements of Boserup (1970:22) concerning the situation in parts of Africa, where this is a typical pattern.

(2) See also Sen, 1982:49.

husking, drying, and often parboiling (O'Kelly, 1978:11), as well as the storage of the grains. It should be noted that the women involved often do not view this as farm work, but rather as part of their domestic work load (K. Bardhan, 1977:41; Beneria, 1979:210-211).

Before making an attempt to elicit the class participation of women in agriculture and the impact of the Green Revolution on them, some overall labour participation rates in both states will be presented. Unfortunately, the figures for these, found in Table V.4, are not broken down by class. It must thus be assumed that cultivators as well as agricultural labourers are included. As such, only the overall male and female rates can be compared for the two states.

Table V.4: Labour Participation Rates in Rice-Intensive Districts in Andra Pradesh and Tamil Nadu, 1961 and 1971

	Total	1961		Total	1971	
		Male	Female		Male	Female
Andra Pradesh	51.87	62.22	41.32	41.68	57.75	25.24
(West Godavari)	47.43	63.23	32.10	38.05	57.88	18.94
Tamil Nadu	45.52	59.74	31.28	36.67	55.96	16.96
(Thanjavur)	42.00	59.40	23.88	33.94	55.44	12.32

Note: The districts of West Godavari and Thanjavur were the two first districts chosen in these states for the implementation of the HYV varieties (Frankel, 1971).

SOURCE: Jain, 1980:19-20.

While in 1961 the male labour participation (MLP) rate in Andra Pradesh was 62 percent, the FLP was 41 percent. For Tamil Nadu, the corresponding figures are 60 percent for men, and 31 percent

for women. Ten years later, the labour force participation of men as well as women had declined in both states. In Andhra Pradesh, the MLP had dropped to 53 percent, and the FLP had sunk to 25 percent. In Tamil Nadu, the MLP had decreased to 56 percent, and the FLP amounted to only 17 percent.

If one compares the state and district figures for both periods, the FLP in Andhra Pradesh is higher than the one in Tamil Nadu. Unfortunately, no directly comparable statistics are available for the Punjab, but referring back to Table V.⁷, it becomes obvious that the difference in FLP is minimal between the two southern states.

The different classes of women involved in agricultural production will now be investigated. Starting off at the top of the hierarchy once again, one finds that there are no specific studies dealing with upper class women in Andhra Pradesh and Tamil Nadu. But enough information is available on women in various castes to come to some valid inferences. In order to build up this case, data on women in Andhra Pradesh will be utilised, which will be supplemented with evidence from Tamil Nadu.

To start with higher caste women, Maria Mies' (1982) previously cited case study on "The Lace Makers of Narsapur" already highlighted the conservatism of the dominant castes in Andhra Pradesh. While often poor, their concern with prestige and potential loss of status is so pervasive that their female kin prefer to stay at home engaged in badly paying cottage industry, whereas the lower caste Harijan women earn more in farm work.

This attitudinal rigidity is a typical characteristic of the higher castes in general. Mencher and Saradamoni (1982:162), for example, found in the case of Tamil Nadu "... that women of some of the backward [sic] castes, or especially some of the higher castes, who work in agriculture ... often state that they will not do certain things as a matter of caste prestige."

As has been shown by Mies' case study of Andhra Pradesh, class and caste correspond less closely than in the Punjab. Due to the effects of the HYV technology, part of the upper and middle castes became impoverished, but the norms governing their behaviour, gender and rank interactions persisted: only in dire emergencies would the high caste women of Narsapur violate the gosha/purdah principle. Mies' study amply documents how poor high caste women are caught in the double bind of having to work and having to remain invisible. That their's is not an isolated case is confirmed by Mencher and Saradamoni (1982:159), who find that: "... many of the marginal land-owning households belonging to the higher castes did not have women who worked, even though many were extremely poor."

The question now arises as to how the upper-class women fared. In order to examine this, Dube's study of the traditional -- that is, pre-Green Revolution -- social pattern in a village in Andhra Pradesh will be considered. He found that rich high caste women abstained from any outdoor activity and were placed in purdah (Dube, in Boserup, 1970:69-70). One can assume that where the rich high caste families profited from the Green

Revolution, the situation of their female kin remained largely the same. This means that although the level of consumption may have been augmented in these families, the lives of the women did not change drastically. That this is not different in Tamil Nadu is confirmed by an I.L.O. study: the authors, examining the effects of the new seeds on women in Andhra Pradesh, Tamil Nadu and Uttar Pradesh found that women of large cultivator households perform mainly supervisory functions (1981a:11). As in the case of the Punjab, the ideology of seclusion survived the encroachment of "industrial agriculture". Even in the face of growing impoverishment, poor high caste women stay at home. (1)

Before proceeding with an assessment of the effect of the HYV technology on middle- and lower-class women, it is first necessary to find out more about the social composition of Andhra Pradesh and Tamil Nadu. As has been demonstrated in Chapter IV on the effects of the Green Revolution, while larger farmers and some of the medium ones benefitted from the introduction of the HYV varieties, they constitute a minority. In Andhra Pradesh and Tamil Nadu, the majority of land holdings are small. 71 percent of cultivators in Andhra Pradesh operate holdings of less than 5 acres, at which size they are considered uneconomic; for Tamil Nadu, the equivalent figure is 73 percent (Frankel, 1971:86). Thus, the land-man ratios have to be kept in mind when investigating the effects of the Green Revolution on women in

(1) M. Mukhopadhyay (1984:57) relates an example of an impoverished high caste women in Gujarat, who preferred starving to the disgrace of working.

Andra Pradesh and Tamil Nadu. Assessing the situation of middle-class women is somewhat complex. In cases where their families remained largely unaffected by the new technology, one can assume that Dube's findings still hold true. It was his finding that women of the "local cultivator caste" (4) worked in the home, but did not pursue gainful employment. The female kin of "ordinary low-caste people" (2) [sic] assisted in the family fields and went to markets (Dube in Boserup, 1970:70).

However, as has previously been detailed, many medium farmers were negatively affected by the Green Revolution. Some incurred debts, others lost their land, and many joined the ranks of the lower classes. As various authors (Frankel, 1971:69 and 30; Sen, 1982:54) demonstrate, the "downward spiral" into poverty and landlessness was much more evident in Andra Pradesh and Tamil Nadu than in the Punjab. The focus here will thus be on the fate of lower class women. It would be impossible to deal with all the variants of the lower classes, however; therefore, the investigation will center on agricultural labourers. As Sen (1982:51) emphasises, "The greatest change in relations of production have occurred with respect to agricultural laborers."

Before elaborating on the findings, it is once again requisite to demonstrate how the men in this group fared. In the case of Andra Pradesh, Frankel notes that landless agricultural

(1) This describes the upper ranks of middle-class families.

(2) Probably referring to the lower middle-classes.

labourers have achieved some modest gains. With more intensive cultivation, opportunities for employment increased, especially for casual workers. Permanent labourers have seen little improvement, though (Frankel, 1971:72). In Tamil Nadu, on the other hand, the situation of landless labourers deteriorated. While permanent labourers have experienced little change due to the HYV's, casual labour is in surplus in Tamil Nadu, which generates stiff competition (Frankel, 1971:106). This also had a strong effect on the female agricultural workers in this state. Unlike the Punjab, where the range of tasks for women narrowed, and where they became "crowded" into a handful of occupations, it appears that in Tamil Nadu employment opportunities for women diminished in absolute terms.⁽¹⁾ This is corroborated by Sen (1982:53), who states that "For female members of the agricultural labour class, the existence and growth of a large relative surplus population in agriculture has meant that they tend to be pushed out of work." Thus, in Thanjavur, only 12 percent of all female workers are agricultural labourers, while a mere 2 percent are independent cultivators (Gough in Whyte and Whyte, 1982:186; see also Table V.4)). But these women are

(1) It needs to be pointed out, however, that the conditions vary between the different districts of Tamil Nadu. While the above is true for most of this state -- including Thanjavur, the main district of the Green Revolution -- in Chingleput, another district, it was found by Mencher and Saradamoni (1982:158) that "while men may do a more varied number of things, there is a greater demand for women because women's work is some of the most labour intensive aspects of paddy cultivation, namely putting in the seedlings for transplanting and weeding ...". Note once again that women are relegated to the traditional, non-mechanised tasks.

indispensable for the welfare of the rural poor. Whereas in the Punjab and Haryana, women's contributions to the household stem mainly from domestic labour and work on family land, in the case of Tamil Nadu, their main contributions are from employment. According to Mencher and Saradamoni (1982:149), in the southern states they examined the income of female agricultural labourers amounted to half of the total family income. Thus, if these women lose employment, the consequences are disastrous for their families.⁽¹⁾ The evidence points to the fact that they are increasingly displaced; K. Gough (in Sen, 1982:53) even notes that "... male coolies are sometimes hired to do work traditionally done by women."

The intensive competition for the remaining jobs leaves women very vulnerable to exploitative practices. This finds its expression in the differential wage rates paid to them. In a village in Chingleput, Tamil Nadu, women are paid one-third less than men (Mencher and Saradamoni, 1982:153). In summing up this situation, Mencher and Saradamoni (1982:151) conclude that:

What the case of rice in India makes clear is that agricultural intensification ~~per se~~ does not necessarily exclude women, though some of the modern innovations do tend to convert female tasks into male jobs (e.g. substitution of chemical fertilisers for cow-dung or green manures, where this has occurred) or to eliminate female [sic] jobs almost entirely (as rice mills have replaced hand-pounding of paddy for middle and larger

(1) Of course, the same pertains to the farm worker families in the Punjab. But agricultural labour households amount to only 18 percent of the population in this northern state (Frankel, 1971:35). In Tamil Nadu, on the other hand, this figure is 50 percent (Frankel, 1971:105).

landowners, or the use of herbicides which has partially replaced weeding)."

Conclusion

Although Mencher and Saradamoni extrapolate from their experience in the south, their assessments hold true for the north as well. Of all rural women, the impact of the Green Revolution has been most detrimental for agricultural workers; while in the Punjab, they were relegated to the backward sector of the agro-economy, in Tamil Nadu, their employment opportunities were curtailed. This reinforces the point that the differential success rate of the HYV technology in the North and South, as demonstrated in Chapter IV, affects women of different classes to varying degrees.

While, according to Sen (1982:55), the southern states experienced the "classical" pattern of proletarianisation, this process had a different connotation in the Punjab. In the south, large numbers of small farmers and tenants were pushed off their land and joined the ranks of farm workers following the inception of the HYV technology. This led to a surplus population of agricultural labourers. Both men and women experienced a deterioration of their living standards. In the Punjab, however, the impact of the Green Revolution did not result in mass impoverishment. Although in this state a number of small farmers and tenant-cum-cultivators were forced into landlessness, overall employment opportunities increased to such a degree that an immigration of farm workers from neighbouring Uttar Pradesh

resulted. Furthermore, the industrial development of the urban centres of the Punjab helped to absorb male labour (Sharma, 1980:28). Female agricultural workers, however, lost out as the new technology increased their marginalisation.

Middle-class women did not fare much better in the process. In order to pay for the financial inputs necessitated by the new seeds, the farmers of this class had to marshall all their family labour resources. Thus, one has to agree with Iftikar Ahmed's (1983:406) statement that: "In general ... the work burden of rural women -- particularly those from tenant and small farmer households -- has increased following the adoption of HYV technology."

At first glance, upper-class women do not appear to have suffered from the technological innovations: if their families could afford it, they were placed in seclusion in the Punjab and Andhra Pradesh.⁽¹⁾ While the women involved certainly appreciated their release from the drudgery of farming, the practice of gosha/purdah should not remain unquestioned. It is furthermore unlikely that these women became "ladies of leisure", as they still had to supervise and organise domestic and agricultural tasks. As P. Bardhan's case study proves, women adapt their housework to the demands of agricultural labour. This means that when farmwork slackens, their domestic load increases.

The case studies thus amply demonstrate the survival and

(1) From personal experience, seclusion seems rather de-emphasised in Tamil Nadu. Unfortunately, no data backing or refuting this observation could be obtained.

pervasiveness of patriarchy during the process of development. While it cannot be stated that its effectiveness diminishes, it exerts a varied influence on different classes of women. In general, patriarchy serves to reinforce the gendered division of labour. Though all women are subjected to both its ideological and material expressions, upper class women are placed in seclusion, while middle and lower class women are faced with the consequences of the sexually segregated labour market. For middle class women who do not take up employment, but whose workloads increase, this means that they are still solely responsible for all domestic tasks and childcare. If male and female occupations sometimes -- as in the case of the Punjab -- overlap, wages do not match. Furthermore, as has been shown, men experience preferential treatment in terms of hiring.

The analysis thus reinforces the tenets of socialist feminist theory. As suggested at the beginning of this thesis, while patriarchy is not inherent in capitalist development, it can be utilised as a tool in furthering accumulation. Hence, the labour expended by all classes of women serves the economy: 'this ranges from the free "domestic" services provided by women in upper and middle class households, to the female agricultural labourers who can be paid even less than the meager wages of men.

It is, thus, in the capitalists' active interest to maintain an ideology that justifies women's subordination and reinforces the gendered division of labour. Instead of eroding remnants of a feudal past, capitalist development serves to reinforce the

pre-existing structure of sexual inequality.

In sum, then, it is clear that, for the classes of women examined, the Green Revolution served to narrow the possibilities open to them, rather than create new opportunities.

REFERENCES

- Adamson, Peter (1980). "Women Work Twice as Hard as Men." *The New Internationalist*, #89 (July):20.
- Ahmad, Zubeida (1984). "Rural Women and Their Work: Dependence and Alternatives for Change." *International Labour Review* 123, #1 (Jan.- Feb.):71-86.
- Ahmed, Iftikar (1983). "Technology and Rural Women in the Third World." *International Labour Review* 122, #4 (July-Aug.):493-505.
- Ahooja-Patel, Krishna (1979). "Women, Technology and Development Process." *Economic and Political Weekly*, XIV, #36 (Sept.):1549-1554.
- Bardhan, Kalpana (1977). "Rural Employment, Wages and Labour Markets in India: a Survey of Research." *Economic and Political Weekly* XII, #26 (June):34-48.
- Bardhan, Pranab (1978). "Some Employment and Unemployment Characteristics of Rural Women: an Analysis of NSS Data for West- Bengal: 1972-73." *Economic and Political Weekly* XIII, #12 (March): 21-26.
- Beneria, Lourdes (1979). "Reproduction, Production and the Sexual Division of Labour." *Cambridge Journal of Economics* III, #3:203-225.
- Beteille, Andre (1975). "The Position of Women in Indian Society." In D. Jain (ed.), *Indian Women*. India: Publications Division, Ministry of Information and Broadcasting.
- Boserup, Ester (1970). *Woman's Role in Economic Development*. New York: St. Martin's Press.
- Brandtzaeg, Brita (1979). "Women, Food and Technology." *Economic and Political Weekly* XIV, #47 (Nov.):1921-1924.
- Charlton, Sue Ellen (1984). *Women in Third World Development*. Boulder, Colorado: Westview Press.
- Chowdury, Neerja (1980). "Breaking the Silence." *The New Internationalist* #90:12.
- Dahlberg, Kenneth (1979). *Beyond the Green Revolution*. New York: Plenum Press.

- Das, Veena (1976). "Indian Women: Work, Power and Status." In B.R. Nanda (ed.), *Indian Women: From Purdah to Modernity*. New Delhi: Vikas Publishing House Pvt. Ltd.
- Dixon, Ruth (1982). "Mobilizing Women for Rural Employment in South Asia: Issues of Class, Caste and Patronage." *Economic Development and Cultural Change* XXX, #2 (Jan.):373-390.
- Dube, S.C. (1963). "Men's and Women's Roles in India: a Sociological Review." In B. Ward (ed.), *Women in the New Asia*. UNESCO.
- Epstein, Scarlett (1981). "Rural Women and Their Multiple Roles." In S. Epstein and R. Watts (eds.), *The Endless Day*. Oxford: Pergamon Press, "Women in Development" Series, Vol. 3.
- Etienne, M. and Leacock, E. (1980). "Introduction -- Women and Anthropology: Conceptual Problems." In M. Etienne and E. Leacock (eds.), *Women and Colonization*. New York: Praeger Special Studies.
- Frankel, Francine (1971). *India's Green Revolution -- Economic Gains and Political Costs*. Princeton: Princeton University Press.
- Gulati, Leela (1982). *Profiles in Female Poverty*. Oxford: Pergamon Press, "Women in Development" Series, Vol. V.
- (1976). "Unemployment Among Female Agricultural Labourers." *Economic and Political Weekly* XI, #13:31-39.
- India (1971). *Census of India, 1971, Provisional Population Totals: Paper I of 1971, Supplement*.
- India (1972). *Census of India, 1971, Final Population Series I: Paper I of 1972*.
- India (1974). *Towards Equality*. New Delhi: Department of Social Welfare, Ministry of Education and Social Welfare.
- I.L.O. (1981a). *Rural Development and Women in Asia -- Proceedings and Conclusions of the I.L.O. Inpartite Asian Regional Seminar, Mahabaleshwar, Maharashtra, India, 6-11 April 1981*. Geneva.
- I.L.O. (1981b). *Women in the Indian Labour Force*. Bangkok: Asian Employment Programme.
- Jacobsen, Doranne (1976-77). "Indian Women in the Process of Development." *Journal of International Affairs* XXX, #2 (Fall-Winter):211-242.

Jain, Devaki (1980). "Women's Employment as Related to Rural Areas in India." Copenhagen: World Conference of U.N. Decade for Women (July 9-13).

Kelkar, Govind (1980). "The Impact of the Green Revolution: an Indian Case Study." *Women at Work* #2:11.

Mencher, J. and Saradamoni, K. (1982). "Muddy Feet, Dirty Hands -- Rice Production and Female Agricultural Labour." *Economic and Political Weekly* XVII, #52 (Dec.):149-167.

Mies, Maria (1982). "The Dynamics of the Sexual Division of Labor and Integration of Rural Women into the World Market." In L. Beneria (ed.), *Women and Development -- The Sexual Division of Labor in Rural Societies*. New York: Praeger Publishers.

Miller, Barbara (1982). "Female Labour Participation and Female Seclusion in Rural India: A Regional View." *Economic Development and Cultural Change* XXX, #4 (July):777-794.

O'Kelly, Elizabeth (1978). *Rural Women -- Their Integration in Development Programmes and How Simple Intermediate Technologies Can Help Them*. London: Intermediate Technology Publications, Ltd.

Seal, K.C. (1981). "Women in the Labour Force in India: A Macro-Level Statistical Profile." In I.L.O (1981b):21-91.

Sen, Gita (1982). "Women Workers and the Green Revolution." In L. Beneria (ed.), *Women and Development*. New York: Praeger Special Studies.

Sharma, Ursula (1980). *Women, Work and Property in Northwest India*. London: Tavistock Publications.

Sundar, Pushpa (1981). "Characteristics of Female Employment: Implications for Research and Policy." *Economic and Political Weekly* XVI, #19 (May):363-871.

Wichterich, Christa (1985). "Der Fortschritt draengt die Frauen ins Abseits." *Entwicklung und Zusammenarbeit, Beitrage zur Entwicklungspolitik*, #1:4-5.

Whyte, Robert and Whyte, Pauline (1982). *The Women of Rural Asia*. Boulder, Colorado: Westview Press.

CHAPTER VI

Summary and Conclusions

As has been demonstrated throughout this thesis, the topic of women and development is fraught with controversy. On the one hand, liberal feminist development thinkers maintain that modernisation is essentially beneficial for a country. The discrimination women suffer in the process of development -- the liberals claim -- can be rectified by integrating women into the planning and implementation of development programmes. As we have seen, these views have been criticised by socialist feminists, who charge that integration is not a solution when women are only integrated at the bottom of society by development. Thus, while the modernisationists succeed in dragging women out of the "invisibility", they fall short in terms of solutions and recommendations.

Socialist feminists, on the other hand, are radical in their critique of the effects of modernisation. They link women's subordination in development to the structure of world capitalism. They consequently posit that the impact of development has to be assessed for a society as a whole before the question of how women fare in the process can be addressed. Hence, the need to investigate the relations of international capitalist expansion is emphasised. In contrast to the liberal feminists, the socialist feminist school thus provides the

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analytical tools necessary to examine the linkage between women's work and the historically specific mode of production in all its aspects. Not only are the interrelations between the economy and women's productive and reproductive work investigated, socialist feminists also explore the link to patriarchy. While patriarchy finds its ideological expression in the realm of norms and beliefs, its material manifestation is embodied in the gendered division of labour. In stressing these linkages, socialist feminist thought transcends the limitations of the liberal feminist school, and thus proves superior for the analysis of women and development. Furthermore, by relating women's position to historical and material conditions (class, caste, region, etc.), it avoids the overgeneralisations for which the liberals are faulted.

In order to analyse the topic of women and development, this thesis undertook to evaluate the impact of the Green Revolution -- as an example of a capitalist strategy -- on rural women in three selected states in India. As has been demonstrated, the success of the HYV technology differed in the north and the south of India. The northern state of Punjab and the southern states of Andhra Pradesh and Tamil Nadu were chosen to illustrate this contrast.

Thus, in concrete terms, having provided the necessary theoretical framework in the second chapter, Chapter III presented an overview of the situation of rural women in India. In order to elucidate the multiple problems (one encounters in

studying the situation of women in India, an introduction into the literature was furnished. As has been shown, it is fraught with inaccuracies and overgeneralisations. Whereas some studies are descriptive to the point of being atheoretical, other sources implicitly rely on the functionalist tenets of modernisation theory. The debate on women and technology as it relates to India exemplified some of the problems described above. From the review of the literature, it became clear that the tendency to draw sweeping conclusions leads to conflicting and sometimes contradictory findings. As has been demonstrated, these shortcomings are resolved by carrying out regional and class specific analysis. For the case of India, caste is a factor which has to be taken into account in addition to class. In order to not only describe, but also explain, the persisting inequalities in the situation of women, the ideology underlying such phenomena as caste and seclusion was also subject to scrutiny.

Once the analytical context was properly set out, it was possible to turn to a presentation of macro data concerning the economic roles rural women play in India. As women's situation cannot be judged in isolation, tabulations on the distribution of both sexes in agricultural occupations were provided. This led to a presentation of the features of the segregated labour market as it pertains to rural women in India. After briefly discussing the variations in men's and women's agricultural activities in different regions, the gendered earning differential was

highlighted.

A regional overview, emphasising the differences between the north and south of India, was included. The variations in the incidence of purdah were considered, and the thesis that women's economic participation conditions their value for society was explored. Another assumption examined concerns the relation established by some authors between type of crop and the degree of female labour participation. As was illustrated, simplistic parallels such as the above are often misleading, and should not be left unchallenged. The picture that emerged from this about rural women in India was not a clearcut one. As demonstrated in some detail, no single factor -- whether crop, region or caste -- suffices to explain women's position. Instead, class and caste factors, as well as the overall socioeconomic situation, were focused upon, together with regional variations and the expressions of patriarchal ideology.

Chapter IV set out to elucidate the major characteristics of the Green Revolution. While originally hailed by its supporters as a blessing which could potentially end world hunger, some of the problems which soon emerged with this development strategy were underlined. Most importantly, it was demonstrated that the success rate of the HYV technology was much higher in the wheat-growing than in the rice-cultivating states. This is attributable in part to the differences in the HYV's themselves, but also to the differential infrastructure of the states in which the Green Revolution was implemented. The key features

noted in this respect were that the Punjab displayed a favourable infrastructure with a well-established irrigation system and an advantageous land-man ratio. The two rice-growing states of Andhra Pradesh and Tamil Nadu on the other hand, were characterised by a high population density, unfavourable land distribution, and greater vagaries in terms of monsoons and irrigation. Due to these factors, the Green Revolution was much less successful in the south of India.

Despite the lesser degree of proletarianisation in the rural population of the Punjab than in the two southern states, it was found that the HYV technology was primarily adopted by upper class farmers in all states. This is due to the fact that such "industrial agriculture" necessitates a gamut of fixed inputs which only the rich farmers are in a position to finance. Practical experience with the introduction of the new seed technology therefore contradicted the claim that it is "neutral to scale". Likewise, the assumption that the benefits accruing to the top of the rural hierarchy "trickle down" and improve the lot of the whole rural population was refuted. Increases in employment opportunities, for example, were offset, or at least endangered, by greater mechanisation. Furthermore, it was demonstrated that, due to the fact that many farmers resumed cultivation of land which had formerly been leased out, many lower class cultivators were pushed off their land to join the ranks of the landless labourers. While more prevalent in the south, this proletarianisation effect was also in evidence in the

Punjab.

Further ramifications associated with the Green Revolution were then investigated. The tendency to implement this development strategy in propitious areas, for instance, led to a growing regional polarisation. Additionally, the environmental hazards inherent in this type of development should not be overlooked. Furthermore, the fixed inputs necessitated by the HYV technology created potential opportunities for multinational involvement, with the risks this entails. While the actual impact of multinational corporations could not be established, one should be wary of agricultural innovations which display such heavy reliance on external inputs. Finally, in terms of alleviating the food crisis threatening India, it became clear that the Green Revolution displaced gains in output in the short run, but in the long run exacerbated the situation of the rural population by fostering proletarianisation and marginalisation.

From this general overview of the effects of the Green Revolution, the analysis turned in Chapter V to an examination of the consequences of this development strategy on rural women in the three states selected for comparison. Given the socialist feminist framework employed, the investigation was class specific. Furthermore, not only were the visible results -- such as the employment effect -- open to scrutiny, but the less obvious effects on women outside the labour force were also looked at. Data for 1961 and 1971 regarding women in agriculture in the three states was provided, taking into account the

statistical incompatibilities one encounters in contrasting these figures. The Resurvey presented in Chapter III was once again utilised to mitigate the effects of definitional change. The adjusted figures of the Resurvey provided a better approximation of the real change which had occurred during the decade.

The comparison indicated considerable decline in the number of female cultivators within the span of ten years, and a swelling of the ranks of agricultural labourers. While this could be interpreted as evidence of the above-mentioned proletarianisation (and marginalisation) effect of the new seed technology, conclusions have to be drawn with caution. For example, it was shown for the case of the Punjab that the high incidence (in 1961) of female cultivators was not a reflection of real conditions, but was in part attributable to the fact that women were declared nominal landholders to circumvent legislation on land ownership ceilings. In order to obtain further evidence, the situation of men in all three states was thus explored. It was found that, for men, a decline in cultivators and an increase in farm workers also took place, but at a considerably lower degree than for women. While the cumulation of problems surrounding the statistics did not permit firm conclusions, the data support the argument that women were further marginalised in the process of development than men.

In order to reinforce this claim, detailed case studies of the results of the Green Revolution on women in the Punjab, Andhra Pradesh and Tamil Nadu were provided. The situation of women was

in each case investigated for the upper, middle, and lower classes. To summarise, the findings indicated that, where upper class families profitted from the HYV technology, their female kin were withdrawn from agricultural labour -- if they had not already been freed from it -- and placed in seclusion. While the possibility exists that some middle class families, especially in the Punjab, partook in the gains derived from the new technology, this appears to be the exception. The information presented in Chapter V indicates that the adoption of the Green Revolution by middle class farmers resulted at best in augmented workloads. It is more likely, however, that these families joined the ranks of the landless labourers. In personal terms, middle class women were faced not only with their traditional "domestic" chores, but also the increased necessity to provide the extra labour required by HYV farming. For those middle class families forced into the lower classes, and for the rural poor, the Green Revolution meant proletarianisation and marginalisation. This process did not occur evenly, however: as expected, among lower class families, it was found that the fate of landless rural labour in the Punjab was better than in the southern states. The opportunities for female farm work, however, diminished in all three states. In the Punjab, the fact that men were trained for mechanised tasks led to a "crowding" of women into the most menial positions. In Tamil Nadu, on the other hand, the existence of a surplus population of agricultural labourers led to stiff competition for the remaining jobs, and in this competition women were the first

to lose out. Thus, the proletarianisation and marginalisation effect of the Green Revolution documented in Chapter IV for the poor male rural population, was shown in Chapter V to have affected women much more drastically. This pattern also demonstrated that capitalist development did not lead to an erosion of traditional patriarchal structures. On the contrary, they not only survived but were reinforced by development, as made clear by the conclusions noted above.

This study thus supports the claim that the socialist feminist framework is the most appropriate for an analysis of women in development. It allows one to account for regional as well as class and caste variations. Most importantly, however, it establishes the linkages between the mode of production, ideology, and the position of women. Women's work was shown to be malleable to the requirements of capitalist development on all levels. Upper class women, whose labour power in agriculture could be dispensed with, thus experienced a reaffirmation of patriarchal control which confined them to the home and assured male dominance over all aspects of their reproductive services. This, in turn, emphasises the need to analyse the organisation of the family as a unit for absorbing surplus labour and producing use-values (Saunders, 1983; Seccombe, 1980). Overall, women's work thus serves to lower the value of labour power. That the unifying element of sexual subordination -- the gendered division of labour -- runs through all classes and aspects of women's lives is proven by the situation of middle and lower class women.

Not only are they confronted with superexploitation due to the combined demands of increased agricultural workloads, they are also still left with the responsibility for "domestic" labour and childcare.

While the usefulness of the socialist feminist perspective has thus been reinforced by this thesis, it should be obvious that more analyses employing a socialist feminist perspective in the Asian context are needed. Contributions to the socialist feminist literature on Asian women are few and far between. As such, further case studies employing this perspective are obviously necessary. This would serve not only to deepen understanding, but also to buttress the theoretical claims of this school of thought. Thus, in many respects, the research conducted for this thesis took place in uncharted regions, relying on studies employing others' perspectives and reinterpreting the findings as necessary.

Within socialist feminism itself, certain issues encountered in this thesis have yet to be satisfactorily resolved. There is, for example, the controversy surrounding the class position of single and married women (both inside and outside the paid labour force). Last, but not least, more attention should be paid to intra-familial inequalities. While socialist feminist conceptualisations of patriarchy provide the means for study, they should be applied more often and more consistently.

In concluding, the question arises as to what the implications of the findings summarised above are for this

thesis. As has been determined, the Green Revolution did not benefit the needy in rural Indian society. On the contrary, as the middle and lower classes were effectively barred from the adoption of the new seed technology, it led to a growing rural polarisation. In Tamil Nadu, for instance, the situation of the already impoverished casual labourers deteriorated to the point of starvation (Sen, 1982:54). As Francine Frankel (1971:105ff) suggests, this increasing rural gap carries with it the potential for an eruption of class conflict.

The actual impact of the Green Revolution on women of course varied, depending on class membership, and whether they lived in wheat-growing or rice-cultivating areas. As was expected, the impact of the Green Revolution was more negative for the population of the south. While upper class women, especially in the north, were less directly affected, it was shown that the augmented prosperity of the rural rich led to an increase in the incidence of seclusion. Middle class women, whose families could not afford such displays of status, were confronted with an even greater workload. The fate of the rural female proletariat has been documented in detail: the structure of the segregated labour market has resulted in their marginalisation in the North; for the South, one can almost state that they were pushed off the periphery.⁽¹⁾ Patriarchal structures thus not only survived the challenge of capitalist development, they emerged strengthened.

(1) Cf. Elise Boulding (1977:295), who refers to women as the "Fifth World".

In sum, the effects of the Green Revolution were negative for the rural poor, and still more so for women. Thus, it is obvious that, where rural women are concerned, the hopes raised by the Green Revolution proved to be false promises.

References to Chapter VI

- Doubling, Elise (1979). "Women, Peripheries and Food Production." In L. Herrera and R. Vayrynen (eds.), *Peace, Development and New International Economic Order*. Tampere: Proceedings of the 7th I.P.R.A. Conference, pp. 294-310.
- Frankel, Francine (1971). *India's Green Revolution -- Economic Gains and Political Costs*. Princeton: Princeton University Press.
- Saunders, Eileen (1983). "Women, the Economy and the Socialist State -- The Case of China." Carleton U., Ottawa: unpublished Ph.D. thesis.
- Secombe, Wally (1980). "Domestic Labour and the Working Class Household." In Bonnie Fox (ed.), *Hidden in the Household*. Toronto: The Women's Press, pp. 25-99.
- Sen, Gita (1982). "Women Workers and the Green Revolution." In L. Beneria (ed.), *Women and Development -- The Sexual Division of Labour in Rural Societies*. New York: Praeger Publishers, pp. 29-64.

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