WOMEN'S WORK AND PEASANT CLASS DIFFERENTIATION:

A METHODOLOGICAL AND EMPIRICAL STUDY IN POLITICAL ECONOMY

WITH REFERENCE TO PAKISTAN

BY

A. HAROON AKRAM-LODHI

A Thesis
Submitted to the Faculty of Graduate Studies
in Partial Fulfillment of the Requirements
for the Degree of

DOCTOR OF PHILOSOPHY

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"I was a peasant, a tenant farmer. We worked on a strip of land for which we got a third of the crop. It was barely enough to live on--there were eight children and my mother needed medicine. For us death is preferable to illness--where would we find money to pay a doctor? One day, another family tried to encroach on our land. They were from the same tribe as the <u>wadera</u> (landlord) so he got involved and had me implicated in a murder case. We could do nothing--the police might as well be working for the landlord. No one can go up against the <u>wadera</u> and survive--it's like being a fish in a pond with a crocodile."
>   -- Naik, a Sindhi peasant, quoted in
>   Lamb [1991]: 121.

                    *   *   *

"Even if you are a Tolstoy working on your masterpiece you are not excused from cooking...for your guests, whereas anything, even writing a letter, will excuse a man from a...duty."
>   -- Shabaan [1992]

                    *   *   *

> Goodbye and good luck
> To all the promises you've broken
> Goodbye and good luck
> To all the rubbish that you've spoken
> Your life has lost its dignity
> Its beauty and its passion
> You're an accident waiting to happen
> You're a dedicated swallower of fascism
>   -- Billy Bragg [1991]

For Rachel

THE ARGUMENT

The marxist analysis of agrarian change has as its basis
peasant class differentiation. Within models of peasant class
differentiation however the sexual division of labour has been
all but ignored. This study presents a method of evaluating
both the economic characteristics of peasant classes and the
sexual division of labour within the households of those
classes. After applying the evaluating method to a sample of
households in Pakistan, tabulating the results and running
statistical tests it is found that there are four peasant
classes. Within each class household labour is distributed so
that women perform labour in excess of that dictated on the
grounds of allocative equity. The results therefore suggest
that women's work produce the material foundations from which
peasant classes engage in the processes of economic life.

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CHAPTER ONE:

INTRODUCTION

1. Purpose and plan

The purpose of this study is twofold. Firstly, it uses classical marxist analysis to ascertain the economic characteristics of a sample of peasant households in the North-West Frontier Province of Pakistan. Secondly, it uses the insights of marxian analysis to study the division of labour between male and female members of the same peasant households. The study thus has as its overriding objective an evaluation of the usefulness of marxian analysis in understanding both the economic characteristics of peasant classes and the role of the sexual division of labour within the households of those classes. The analysis undertaken is both methodological and empirical.

The remainder of this chapter serves as a background to the study. It explains the necessity of including the sexual division of labour in the study of agrarian structure and change and outlines the inadequacies of classical and neo-classical theories of the process of agrarian structural

change.

In contrast the following chapter introduces the marxian approach to the process of agrarian structural change. It is argued that this approach, through its models of peasant class differentiation, takes into account both the social and the economic factors which sustain the reproduction of an economic structure. Marxist analysis therefore presents a better explanation of agrarian structure and change than that offered by classical or neo-classical theories.

Nonetheless, within marxist models of peasant class differentiation the sexual division of labour has been all but ignored. The first part of this study will assess the debates surrounding the sexual division of labour and shows that peasant class analysis and the sexual division of labour can be amalgamated to form an internally consistent method of empirically assessing agrarian structure which highlights the role of the sexual division of labour in fomenting the peasant class differentiation process.

This methodology is tested in the second part of this study using data from a field survey conducted in the North-West Frontier Province of Pakistan in 1985. The survey data is reanalysed using the methodology previously outlined in the

study to determine whether distinct economic classes exist in the project area. Robust statistical results support the hypothesis that there are four peasant classes in the project area, and indicate the analytical relevance of both the methodology and the underlying marxian theory used in the study.

On the basis of this support, the study further examines the economic characteristics of the peasant classes, and provides an analysis by class, sex and age of each household member's contribution to total household labour. An assessment is then made of the equity of the allocation of household and non-household work amongst household members.

Finally, remarks are made concerning the economic characteristics of non-cultivating households found within the sample. The study concludes with a summary of findings, from which some inferences are drawn concerning agriculture in Pakistan.

This study is an exercise in political economy and it must be recognized that behind every economic statistic lies a social process. The stability of agrarian economic structures is shown in the reproduction of village units. A focal point of this reproductive stability is the family unit. It is

necessary to get an understanding of how this stability is created. Chapter Three therefore briefly sets out Gramsci's insights into the political economy of ideological formation. While the nature of the study precludes detailed analysis, it is asserted that these ideas are a rich basis upon which to achieve a fuller understanding of the material contained in this work.

2. Initial issues

At the outset of this study it is necessary to clarify what is meant by the term "peasant", as the word has no clear theoretical meaning. In this work the economic definition of peasants shall be taken to be

> farm households, with access to their means of livelihood
> in land, utilizing mainly family labour in farm
> production, always located in a larger economic system,
> but fundamentally characterized by partial engagements in
> markets which tend to function with a high degree of
> imperfection (Ellis [1988]: 12).

This definition makes it apparent that the peasantry are involved in a complex of economic relationships involving market and non-market forces.

Any framework of analysis for the peasantry must therefore "bridge the dichotomy between market and non-market forces" (Hart [1986]: 201). Attempts to formulate such a framework have, over the last twenty years, entailed a resurgence of interest in the 19th century Russian debates concerning

peasant socio-economic structure. Both the Narodnik "orth-
odoxy" and its counterpart, the "radicalism" of the Agrarian
Marxists, can find equivalents in current debates. The ques-
tions regarding peasant society remain fundamentally the same:
what is the connection between property relationships, work
relationships, and the potential for agrarian accumulation?
In the context of peasant producers, this can be asked
slightly differently: what are the relationships between the
peasantry, the market, and accumulation? At the same time, is
the peasantry a homogenous or heterogenous social force? If
the latter, what forces are responsible for the stratification
of cultivators, whether owner or tenant? More specifically,
does economic or demographic logic ultimately determine the
development of agrarian relationships?

The answers to these questions are of twofold importance to
those contemporary poor countries whose populations are
predominantly rural. First, accurate theoretical analysis of
the peasantry can give an understanding of why agrarian
development policy often fails in its objectives. Second,
this understanding may provide a good guide to developing
appropriate alternative policies.

The "orthodox" and the "radical" approaches to peasant
economies share the same fundamental unit of analysis: the

household. Feminist social theory questions the relevance of this unit of analysis and points to the unique role of women in the development process. This uniqueness arises because of women's participation in waged employment and, more significantly, because of the distinct role women play in servicing the wider needs of the population through the maintenance of the household. At its barest minimum this maintenance can take the form of food preparation, childcare, sanitation and familial reproduction. This role is rarely captured in the economic analysis of agrarian structural change.

Within the debates over the socio-economic structure of the peasantry, the internal structure of the household has not been systematically investigated, and it is a central tenet of this study that such a crucial area of analysis should no longer be ignored. If the interrelationship between peasants, markets and accumulation is to have any real relevance to the understanding of economic structures and the formulation of effective policies, it is of central importance to examine interactions between peasant economic structure and gender relations as embodied in the sexual division of labour. Without such an examination, programmes designed to alleviate the structural inequalities faced by rural households may not reach the household _per se_ but rather only specific groups

within the household.

The domestic servicing role played by women is not an in-
evitable phenomena but is rather continually recreated as one
generation replaces another. Ideology and the formation of
consciousness is therefore a central aspect of household
structure and intrahousehold gender relations. A complete
examination of the interrelationship between peasant economic
structure and the sexual division of labour must therefore
move away from questions concerning "pure" political economy
to assess the ways ideologies are socially constructed. While
such a complete investigation is beyond the scope of this
study, a recognition of the role of non-economic phenomena
informs much of what is outlined in this work.

3. Economic thought and agrarian structural change

The role of the agrarian sector in the development of con-
temporary poor countries is of central importance. With over
70 per cent of the working population of low-income countries
located in the agrarian sector, it is apparent that any
sustained effort to raise the living standards of the poorest
must focus on agriculture. Beyond such humanitarian concerns
it is also widely believed that agriculture plays a key role
in the process of economic development.

The emergence of a manufacturing sector is generally thought to be a necessary structural change which serves as a precondition of self-sustaining economic development (see Gerschenkron [1962]; Kaldor [1967]; Chenery and Syrquin [1975]; U.N.I.D.O. [1979]). However, a manufacturing sector has heavy requirements for capital, labour and raw materials, and these can rarely be met solely from abroad or from the small developing industrial sector itself. Resources for the development of manufacturing must therefore come from the agricultural sector, which has the capacity to produce output in excess of its own requirements. It is for this reason that agricultural production is considered of such importance in economic development.

Given the potential of agriculture to fuel economic development it is not surprising that there have been many attempts within the history of economic thought to conceptualize the relationship between agrarian structures and economic development. The remainder of this chapter highlights some of these attempts, will demonstrate their inadequacies and explain why this work will focus upon a different approach to the understanding of agrarian structures.

3.i) Classical theory

Two classical views on agrarian structures and economic

development can be identified. One derives from the work of Adam Smith while the other is based on the work of Thomas Malthus (Smith [1937]; Malthus [1964]). Smith's model can be summarized thus: agrarian economic development is the result of conventional principles of supply and demand working over time in the context of freely-flowing trade. As is well known, Smith believed that each individual is endowed with different, relatively scarce productive capacities. It is therefore rational for individuals to specialize in production based upon their own unique abilities and assets and then to use the institution of exchange in order to accrue gains from trade. As specialization in agriculture occurs the commodification of agricultural output also becomes a general phenomenon. Individual producers therefore become increasingly dependent upon selling their product to survive and this spurs economic efficiency. The ability to sell depends upon lowering unit costs, raising investment, innovation and further specialization. The result is a dynamic process of agrarian accumulation, technical progress and eventual structural change.

The fundamental problem with Smith's model in explaining commercialization is that

> Smith takes for granted precisely what needs to be demonstrated: namely, that the producers will commoditize all or most of their output...(and) that the producers are able to allocate their resources as they see fit and

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> appropriate the full returns on their investments (Brenner [1986]: 24-5).

Smith thus assumes that markets are adequately formed and that they dominate producer behaviour. Such an assumption should be tested. If markets are unconsolidated, economic relationships may be based on non-market, as well as market, principles (Polanyi [1964]). Non-market principles expressed in non-capitalist property relationships and labour-processes can prevent all agents having equal access to markets (Bardhan [1980]). An adequate explanation of commercialization must therefore entail an examination of the relationships embodied in the labour-process which surrounds production and the specific property relations which permit those other than the direct producer to control output. These relations constitute the core of the class structure, and analysis of agrarian change must therefore focus on the historically-specific balance of class forces (Bardhan [1980]: 84-5; Bhaduri [1983]: 1). While Smith is not uninterested in such questions, they are not his focus. Smith has a preconceived model of how an economy should work which he uses to explain change over time. This is ahistorical and as such his is a fundamentally incomplete approach to explaining development.

Malthus did attempt to address some of the problems of Smith's approach. Malthus' model makes two assumptions: that increases in agricultural productivity are not possible; and

that the population is subject to positive trend rates of growth. Given these assumptions it follows that demand will tend to outstrip supply across a range of agricultural commodities, especially necessities. As a result the terms of trade shift to agriculture and food prices rise. Rents will also rise. Trend declines in real wages are thus inevitable. The result is a demographic crisis that is only corrected by famine. This establishes a new equilibrium distribution of property, a more equitable distribution of output, and obviates the need for coercion in controlling the output of the direct producers. From this new equilibrium, production can be reorganized, investment can again become productive, and technical change and agrarian accumulation can be fostered.

Malthus thus examined how changes in the distribution of property and its product occur. Two problems however remain. Firstly, and simply, the "demographic model historically breaks down in the face of comparative analysis" (Aston and Philpin [1985]: 21; see also Roemer [1988]: 119-23).

Secondly, while demography is of importance in the distribution of property and of product, these aspects of social relations again taken together embody class structure. Indeed, Malthus' theory could be reversed so as to place class

as the causal factor in structural change. It could be argued that class structures determine demography, since they may preclude the suitable organization of agrarian production, productive investment, and technical change. The result would be a demographic crisis which generates struggles to alter the relations of class power. This in turn heralds new forms of productive organization, productive investment, and technical change. Agrarian accumulation and structural change could thus again relate to the historically-specific balance of forces. Both classical theories are therefore inadequate in explaining the general process of agrarian economic development, because they largely ignore class relations.

3.ii) Neo-classical theory

As will be demonstrated below, the fundamental criticism of neo-classical analysis is that it often ignores the specificities of the agrarian sector through a set of sweeping assumptions that are of dubious empirical validity and which are methodologically inadequate. Neo-classical analysis assumes that irrespective of social relationships technical data can be used to show the innermost workings of the economic structure. The trouble with this assumption is that technical data must be organized in a specific way and for a specific purpose in order for production to proceed. Such organization is socially determined. Technical data is

therefore subject to a social determination. As with the criticism of Smith in neo-classical analysis an implicit normative conception of reality is being imposed rather than being argued.

Many of the early neo-classical theoreticians followed the standard practice of assuming homogenous inputs, efficient production and utility maximization. A situation is thus envisaged where the peasant is poor but efficient in production and consumption decisions. The neo-classical model of the capitalist firm can then be applied to examine those decisions. Not surprisingly, these models conclude that if opportunities for profitable trade exist then markets will develop (Schultz [1964]). This, therefore, explains the initial commoditization of agricultural output and ultimately agrarian structural change.

The difficulties with this early neo-classical approach are many. A specific criticism concerns the assumption that markets function efficiently. While market imperfections are discussed in the neo-classical approach, the source of these imperfections is reduced to a free rider problem. The existence of free riders in a microeconomy is not however simply an example of a removable market imperfection but may be an indication that the market itself is fundamentally

imperfect. This is especially the case if the free rider problem is embedded in the relationships which surround the market. In such circumstances use of resources will not be based upon principles of marginalism and as a result resource allocation will differ from that of the capitalist firm. Attempting to then analyze allocations on the basis of marginal principles may give misleading results.

The inability of neo-classical economics to deal with structurally embedded market imperfections is part of a wider failure to set out realistic distributional assumptions. The inequitable distribution of productive assets may give rise to production inefficiencies (Rao [1986]: 81). Individuals without adequate access to assets may attempt to reduce risk by following non-maximizing behaviour so as to reduce the potential cost of market uncertainty. As a result, microeconomic general equilibrium theory is inadequate in its examination of how peasant behaviour can reinforce market imperfections; how economic adjustment in markets can reflect both market and non-market processes; and how transactions become personalized in order to avoid the problems of non-complete markets. The result is that while much neo-classical theory asserts that an analysis of market processes alone should be sufficient to understand economic outcomes, such an assertion is not tenable (Rao [1986]: 56).

To be fair, it is important to recognize that some neo-classical theoreticians have refined their method to incorporate adequate assumptions about wealth distribution. These refinements are usually found in neo-classical models of sharecropping, which deal with the interlocking effects of wealth concentration by assuming: rationality; costly information, resulting in imperfect markets; institutional adjustment to reflect the costs of imperfect markets on transactions; and as a consequence a lack of pareto efficiency (see for example Braverman and Stiglitz [1982]; Stiglitz [1986]).

The main weight of economic adjustment in such models is borne by the land and credit markets. The reason the labour market does not bear any adjustment costs is that in order to make the model work, full employment must be assumed. This severely limits the viability of the model. While such an assumption may be adequate for some economies, it is clearly not an adequate basis for understanding the agrarian sector in Asia. It would thus appear that the benefit of improving one set of assumptions comes at the cost making other, less realistic, assumptions.

It thus seems clear that in order to understand agrarian economic development it is necessary to examine the rela-

tionships surrounding the distribution of property and work. These relationships form a central aspect of the class structure. Both classical and neo-classical economic analysis do not however adequately explore these relationships.

Much of the knowledge concerning the relationship of changes in agrarian structures to economic development has come about through a critical engagement with the history of the development of capitalism in Europe. It is therefore of interest to assess whether class analysis can contribute to an understanding of the development of capitalism in Europe. Any explanatory contribution would serve to reinforce the argument made above, of the need for class analysis, and demonstrate that in addition to its theoretical importance class analysis has practical explanatory power when applied to the history of economic development. A brief detour into European economic history is thus provided in the following section.

4. Economic history and agrarian structural change

Two key questions have emerged amongst economic historians analyzing the transition from feudalism to capitalism in Europe. First, why did serfdom decline in some regions and persist in others? Second, why did landlord/tenant relations emerge in some regions and an owner-occupier small peasantry in others? Brenner has convincingly argued that property

relations set limits on economic development by limiting the incentive of dominant classes to adopt available growth-enhancing innovations (Brenner [1986]; see also Brenner [1977]). The logic behind Brenner's argument is therefore important in understanding the conditions in which agriculture may make a significant contribution to economic development.

In feudalism, surplus extraction was the basis by which the dominant class reproduced itself. Surplus extractions were carried out through the mechanism of rent and backed up by coercion. Production was organized through the institution of serfdom to fit the needs of surplus extraction. Peasant ownership was by and large excluded. Property relations thus resulted in lords and serfs not having to rely on the market. Reproductive strategies, focused not on accumulation but on familial consumption, were the logical outcome of such property relations.

The benefits of heavy surplus extraction gave no incentive for the dominant classes to innovate, while the peasantry lacked both the incentive and the means to invest. As a result, productivity dropped and an exhaustion of peasant production emerged. The class structure of feudalism thus precipitated a crisis of productivity and threatened the basis of subsistence. This crisis broke down the inhibiting effect of

the lord's coercive capacity. Conflicts could therefore eventually take the shape of struggles over the possession of the means of production. These struggles occurred from the 14th century to, in some parts of Europe, the 18th century (see Sweezy, Dobb et al [1978]; Aston and Philpin [1985]; Brenner [1986]; Hilton [1990]).

The outcomes of these struggles were regionally specific and based upon the prevailing balance of forces. In some areas, such as France, the direct producers took control of the land. Freed of the burden of surplus extraction, they could invest to overcome productivity decline. As output increased and surpluses accrued, the gains to be had from the pursuit of efficient market-oriented reproductive strategies became clear. Accumulation was thus fostered. In other areas, such as England, the outcome of the struggles over the means of production was to by and large separate serfs from access to land. They therefore had to rely upon the market for subsistence. With a growing demand for subsistence goods and lacking access to secure surpluses, individual landlords moved into direct agricultural production. Falling under the sway of market relations meant having to compete, which entailed both specialization and innovation. Agrarian production responded and accumulation began. Again, agriculture was transformed. In other areas the result was the emergence of

new, commercially-based tenancy arrangements.

The key to the agrarian transition in Europe was thus an economic crisis which spurred a structural change in property relations and promoted agrarian accumulation. The roots of the crisis lay in the fetters to development engendered by the structure of the previous set of property relations (Carling [1991]).

It is thus the case that from the standpoint of economic theory and from the standpoint of economic history, any understanding of agrarian economic development must encompass changing property relationships, the concomitant social relationships associated with such changes in property relations, and therefore changing class structures in order to have explanatory power. Classical and neo-classical accounts do not place changes in the class structure at the heart of their analysis. It is therefore necessary to consider alternative paradigms of economic thought as a means of understanding agrarian economic development.

CHAPTER TWO:

THE THEORY OF PEASANT CLASS DIFFERENTIATION

1. The mode of production

The main alternative to classical and neo-classical explana-
tions of agrarian structural change is derived from the work
of Marx.   Marxian economics explains the development of
capitalism in agriculture by reference to property relations
within the concept of the mode of production.   Marx never
rigorously defined the mode of production, although an
implicit definition of it can be found in volume three of
Capital, where Marx wrote that

> the specific economic form in which unpaid labour
> is pumped out of the direct producers determines
> the relationship of domination and servitude, as
> this grows directly out of production itself and
> reacts back on it in turn as a determinant.   On
> this is based the entire configuration of the
> economic community arising from the actual rela-
> tions of production, and hence also its specific
> political form.   It is in each case the direct
> relationship of the owners of the conditions of
> production to the immediate producers--a relation-
> ship whose particular form naturally corresponds
> always to a certain level of development of the
> type and manner of labour, and hence to its social
> productive power--in which we find the innermost
> secret, the hidden basis of the entire social
> edifice (Marx [1981]: 927).

In this formulation, three core concepts are identified: the

relations of production; unpaid labour; and the level of development of the type and manner of labour, the latter being an integral aspect of the analysis of the labour-process.

1.i) The labour-process

Marx argued that production, not scarcity, determined the contours of economic life. In this, he followed Ricardo. At the same time however Marx argued that "all periods of production...have certain features in common; they have certain common categories" (quoted in Taylor [1979]: 107). For Marx, these common categories consist of workers and means of production. These are connected in the labour-process, defined as the relationship between the labourer, the object of labour and the instruments of labour. In the labour-process labour is applied to raw materials so as to transform them into products of use-value. Throughout history, labour-processes have been subdivided into separate tasks and co-operation promoted so that use-values can be more efficiently produced. In the production of a particular product several different labour-processes may thus coexist. As social struggles and the effects of such struggles on the utilization of technological progress alters these divisions of labour, the labour-process itself changes. As Althusser and Balibar put it, "the subject of development is nothing but what is defined by the succession of the forms of organization of

labour" (Althusser and Balibar [1970]: 247).

1.ii) Relations of production

Different products must be distributed amongst the members of the society in order to satisfy needs, since "the ultimate condition of production is...the reproduction of the conditions of production" (Althusser [1971]: 123). Distribution and exchange are thus predicated upon production. Furthermore, in that people must at some point interact, exchange, the division of labour, and indeed the labour-process are all social phenomena reflective of social relationships.

Production and exchange thus generate "relations into which men enter in their social life process, in the production of their social life", relations of production that "have a specific, historical, and transitory character" (Marx [1981]: 1018). These relations of production define the position of economic agents: their function in relation to the principal means of production. According to Marx, the foundation of a set of relations of production is the system of access to productive assets which applies to workers and non-workers. Differentiated access to productive assets affects the reproductive strategies pursued by individuals. It also means that the formal equality of agents engaged in a process of

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exchange--such as the receipt of labour-power in exchange for wages--can mask a deeper underlying reality of unequal access to productive assets upon which any production and hence any exchange must rest.

1.iii) Unpaid labour

It is in the labour-process that production occurs; and it is in the labour-process where unpaid labour is "pumped out" of the direct producers. Labour expended by workers in excess of their reproductive requirements creates a surplus product which is transferred from the direct producers to those who own or control the productive assets.

The basis upon which surplus is appropriated is that of legally-sanctioned property relations. Surplus extraction is thus not given in the process of production itself but is a result of the relations of production, in that relations of production both imply and facilitate a redistribution of the labour expended in production. The surplus labour extracted from producers can be used for consumption or accumulation by those in control of productive assets.

It is the appropriation of surplus labour that is termed "exploitation" by marxists. In that classes in the marxian sense are defined by their relationship to the control of

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productive assets and the resulting capacity to extract surplus labour, exploitation is a fundamental characteristic of societies based upon class.

The development of labour-processes is governed by the requirements and capacities of the dominant classes to extract surplus labour. Relations of production thus set limits upon the trajectory of development. While technological capability and capacity are important spurs to change, the utilization of such "forces of production" are a result of specific circumstances in which the balance of class forces determines the dominant relations of production and hence the productive possibilities offered by new technology (Brenner and Glick [1991]).

The combination of forces of production and relations of production is central to Marx's conceptualization of structural change. As he wrote,

> in the social production of their life, men enter into definite relations that are indispensable and independent of their will, relations of production which correspond to a definite stage of development of their material productive forces...At a certain stage of development, the material productive forces of society come into conflict with the existing relations of production, or--what is but a legal expression for the same thing--with the property relations within which they have been at work hitherto. From forms of development of the productive forces these relations turn into their fetters. Then begins the epoch of social revolution (Marx [1977]: 389).

This formulation implies that the relations of production which structure both labour-processes and surplus labour appropriation develops both out of and as a result of other modes of production. The structural changes by which the new emerges from the old has been termed by some as the "articulation of modes of production". While some writers reject such a term (see for example Bernstein [1979]), the level of generality in the use of term here is not inconsistent with their work and indeed can assist in the explanation of the emergence of the phenomena they are concerned with, namely petty commodity production.

There are however practical difficulties which surround any attempt to grasp theoretically the processes by which the capitalist mode of production comes to exist in, dominate and eventually overwhelm a pre-capitalist economy (see for example Rudra et al [1978]; Wolpe [1980]). Given its centrality to the subject of this work, this point is worth illustrating.

In general, the early phases of agrarian capitalist development consist of a process whereby the dynamics of the pre-capitalist mode are reconstituted. The initial insinuation of capitalism into the non-capitalist mode is usually achieved through the guise of commodity exchange. Exchange should lead to the breaking of the non-capitalist equality between

agrarian production and consumption. The disestablishment of such a link changes previously dominant relations of production by altering the distribution of surplus labour. For example, surplus labour which was previously distributed to landlords through extra-economic coercion can become distributed to capitalists through the mechanism of the market.   The emergence of new forms of surplus labour distribution imply the development of new relations of production. The key moment to the development of capitalist relations of production occurs when direct producers are separated from their means of production and the social existence of labour takes the form of labour-power. Exchange can thus act as a precursor to the more fundamental transformation in the relations of production.

This process entails economic agents entering into an emerging agrarian capitalist mode of production from initially non-capitalist divisions of labour. They are thus used to working within non-capitalist labour-processes, relations of production, and ideologies. The process of transformation to a capitalist mode of production may therefore give rise to "dislocations" wherein variegated combinations of elements of both modes come to co-exist.   This is the articulation of modes of production. Capitalist labour-processes may thus combine with pre-capitalist ideologies; capitalist relations

of production may combine with a pre-capitalist division of labour; different forms of the division of labour may co-exist; and indeed the different possible forms of labour may unite in one worker (Taylor [1979]). The possibility of these complexities means that it is important to be sensitive to the specificities engendered by an articulation of modes of production.

Several points follow from an awareness of the nuances of articulation. First, it is ahistorical to accept that pre-capitalist modes must inevitably be dissolved by capitalism. As has been argued in Chapter One, this supposition is based upon an assumption of competitive markets which cannot be assumed but must be tested (Bardhan [1986]). Indeed, articulation may explain the presence of imperfect markets which prevent the maturation of capitalism. It is implicit in the argument of Chapter One that reproductive strategies that may be feasible within the context of a fully-fledged capitalist economy may not be feasible in the context of an emerging capitalist mode of production.

Secondly, and following from the first point, it seems reasonable to assert that capitalist and pre-capitalist modes of production have differentiated relationships depending upon the specific circumstances. The capitalist mode may strive to

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forcefully destroy the pre-capitalist mode. Alternatively, if the capitalist mode acquires means of production or labour from pre-capitalist modes, then reproduction of the capitalist mode may to some extent be conditional upon the reproduction of the pre-capitalist mode. It is further possible that during different phases of capitalist development pre-capitalist modes of production could play different roles; these may sometimes be complementary and sometimes be conflictual to the capitalist mode. The pace of possible transformation should thus be conceived as being highly flexible.

The third point following from the marxian concept of the articulation of modes of production is that the dominance of the capitalist mode is not only not inevitable but indeed has to be built, in that the transformation of the class dynamics of the pre-capitalist mode involves a process of negotiation and struggle between classes of different modes. Fundamental to the resolution of such struggle is the ability of classes from different modes of production to forge alliances. Class alliances do not exist in a vacuum; they are constructed and are sustained by being continually reconstructed. Their establishment is thus itself a dynamic process.

Lastly, in order to fully grasp the complexities of an

agrarian change wrought by the articulation of modes of production theorization on its own is inadequate. It is necessary to move beyond theory by using it as the foundation of methods capable of producing empirically-based analysis. The utility of mode of production analysis lies precisely in its capacity to become the methodological foundation of empirical analysis.

Mode of production analysis can be used in this way because it combines technical and social relations. In this it fundamentally differs from neo-classical models. Mode of production analysis examines how concrete technical processes such as the combination of factors of production are structured through determinate social relations such as the distribution of property (Cohen [1979]: 79-84). In so doing, mode of production analysis provides the methodological tools to explain social development by reference to the empirical phenomena of property relations, labour-processes, surplus appropriation and reproduction. The analytical method of the classical marxist model can thus be applied to specific empirical situations.

Marx clearly believed in the use of such exercises when he wrote that a dominant form of surplus appropriation

> does not prevent the same economic basis--the same in all
> its major conditions--from displaying endless variations

and gradations in appearance, as the result of innumerable different empirical circumstances, natural conditions, racial relations, historical influence acting from outside, etc., and these can only be understood by analyzing these empirically given conditions (Marx [1981]: 927-8).

Similarly, Lenin wrote that "a theoretical economic analysis can, in general, only deal with tendencies" and as such cannot uncover "a law for all individual cases" (Lenin [1964]: 111, 117). It can be noted that this willingness to accept the inconsistent and the unexplained separates marxian economics from classical and neo-classical economics. As a result of the dialectical method marxian economics does not assume a complete correspondence between systemic and individual phenomena (Walker [1988]: 173).

2. Peasant class differentiation

The logic used above grants a central place to the labour-process, production relations, surplus extraction and reproduction as the phenomena whereby mode of production theory can be used in empirical observation. It follows that in using such phenomena it should be possible to establish the concrete form of any structural changes which have occurred or are occurring to the determinate mode of production.

One such concrete form of structural change is the subject of this study. At the level of the household, the production relations, labour-processes and surplus appropriation that it

is engaged in taken together comprise the reproductive strategy of the household. Transformations in the reproductive strategies of households in the agrarian sector of poor countries represent a concrete form of structural change in the mode of production which is known as "the differentiation of the peasantry".

In The Agrarian Question, Kautsky had argued that

> to study the agrarian question according to Marx's method...we should ask: is capital, and in what ways is capital, taking hold of agriculture, revolutionizing it, smashing the old forms of production and of poverty and establishing the new forms which must succeed (Kautsky [1980]: 45-6).

As Rahman writes, the answer to this question,

> according to the Marxists, (is that) the peasantry in the Third World...has, in recent times, experienced a fundamental structural transformation. They argue that the social division of labour in rural society has gone through a qualitative change. As a result, the peasantry is seen as having undergone a definite process of fragmentation along class lines. It is in these proces- ses, according to the Marxist model, that the roots of rural inequality and poverty can be observed. This is indeed the differentiation perspective (Rahman [1986]: 4).

The classic statement of the differentiation perspective was given by Lenin in The Development of Capitalism in Russia (Lenin [1964]). This is usefully supplemented by The Agrarian Question of Kautsky (Kautsky [1980], [1987]). Despite not having access to the other's work, Kautsky and Lenin had similar understandings of the general tendencies at work in

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the process of peasant class differentiation. It is useful to detail the process by which both Kautsky and Lenin saw differentiation occurring.

2.i) The process of differentiation

For both Kautsky and Lenin the force behind peasant class differentiation is industrialization. Industrial development can end the interrelationship of rural agriculture and rural industry; industry can commodify agricultural production; industry can create labour markets; industry can break down pre-capitalist regimes in town and country; and industry can introduce new technology. In short, industry can introduce into rural areas alternative reproductive strategies in terms of social relations, labour-processes and technology.

Most particularly however, and as noted in Chapter One, industry places demands upon agriculture for resources. The generation of a product surplus to the agrarian sector's needs can provide physical, financial, and wage good resources for industrialization if transferred to industry by means of the price mechanism and taxation policy. Moreover, the resource needs for industrialization are not static. Once industrialization gets underway its sustenance requires that the surpluses generated by agriculture must continue to grow.

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This necessitates the emergence of a dynamic, surplus-generating agrarian sector. Prior to the commencement of industrialization however few of those engaged in the agricultural sector view the generation of an agricultural surplus as an end in and of itself. Limited quantities of land, tenurial structures, excessive taxes, and labour service obligations all retard the potential for surpluses to be increased. The lifting of such constraints is facilitated through the transformation of the pre-capitalist mode of production found in the agrarian sector.

Peasant class differentiation is inherent in the transformation of the mode of production. The process begins with the insinuation of commodity circulation into the prevailing pre-capitalist mode of production. As Kautsky noted, the introduction of industrial commodities engenders the need for money and the commoditization of agricultural production, often initially a basic foodstuff, occurs. As agricultural commodity production expands, competition amongst agricultural producers will have the effect of subordinating peasant production to the market via the medium of money even if pre-capitalist relations of production remain strong. Increasing specialization in commodity production further heightens dependence upon the market and expands monetization processes.

It is the competitive pressures entailed with the development of capitalism in agriculture that fosters peasant class differentiation. Market forces can destroy the economic position of those households unable to maintain the appropriate balance in their productive activities between use-value and exchange-value production. Those producers that maintain a market-oriented balance find that markets can provide the basis of accumulation if the principles of capitalism are followed: expansion, innovation, and a lowering of unit costs through scale economies.

The capacity to take advantage of market opportunities depends however on both the generation of a surplus and on how that part of the agricultural surplus which is retained is used. The retained surplus generates resources which should be directed towards growth-inducing investment in agriculture. This in turn maintains growth in the surplus generated by the household and thus becomes the basis of the capitalization of agriculture and agrarian accumulation. Retention of the surplus however is not an inevitable occurrence but rather is the result of class struggles concerning the actual and potential reproductive strategies available to households.

Those producers unable or unwilling to pursue a market-oriented balance in their agricultural activities find that

output becomes insufficient to meet the demands made by the household in the market. Attempts to use markets for consumption purposes while avoiding the use of markets for production purposes merely generates deficits which are only reinforced by distress sales of output and the mobilization of debt. In order to meet the costs of market participation deficit households therefore increasingly engage in wage labour which is performed both for the more dynamic surplus producers and for industrial producers.

The result is the gradual emergence of qualitatively distinct types of holdings which differ in their organization of productive activity. One group may produce for accumulation, while the other strives to maintain subsistence in increasingly difficult circumstances. As differences emerge between holdings in the pattern of productive activity, changes between holdings in the pattern of capital and labour utilization also occur. The result is a change in the structure of resource demand and ultimately in the structure of resource distribution. Accumulating households seek to expand their control over productive assets in order to give further impetus to accumulation. Deficit households increasingly liquidate their remaining assets by selling them to more dynamic producers. A change in the distribution of productive assets--both means of production and labour-power--

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thus takes place. In that the distribution of productive assets defines class structure, this means that agrarian class structures are transforming.

Producers unable to sustain themselves on the land thus become separated from it. Indeed, the progressive socialization of labour is a condition of growth of the commodity economy. Deficit producers become part of the labour force and indeed of the market needed by those peasants boosting output and expanding holdings of the means of production. In turn, surplus-producing agrarian households have relatively higher incomes which by contributing to the creation of a home market spur capital accumulation as a whole. As Lenin wrote,

> the "home market" grows as a result of the conversion into a commodity of the product of commercial, entre-preneur farming, on the one hand, and of the conversion into a commodity of the labour-power sold by the badly-off peasants, on the other (Lenin [1964]: 73).

The agricultural population as a whole therefore gradually enters into relationships that increasingly typify those found within the capitalist mode of production. These processes are exacerbated as infrastructure is developed and new technologies are introduced in agriculture.

Markets are one of the key channels through which both agricultural surpluses can be mobilized for the in-dustrialization requirements discussed in Chapter One and the

direct producers can be separated from the means of production. Markets and trade do not of themselves foster change. Rather, in the genesis of agrarian capitalism changes in social relations give rise to structural changes. Eventually, non-capitalist property relations and labour-processes are subordinated and integrated into the capitalist mode of production (Brenner [1986]).

A full understanding of peasant class differentiation there-fore requires an examination of both the primary mechanisms by which capitalism transforms pre-capitalist social relations and the characteristics of the classes which can emerge as a result of the process. It is however important to attach a provision to such an examination: in different contexts the specific pattern by which modes of production articulate can be expected to produce diverse and variegated forms of differentiation (Byres [1986]: xv). It is thus important to remain sensitive to specific circumstances.

2.ii) The differentiation schema of Lenin

In The Peasant Question in France and Germany Engels had presented the first investigation of peasant class differ-entiation (Engels [1970]). Five years later Kautsky had developed his differentiation schema in The Agrarian Question. Concurrent with Kautsky, Lenin was preparing The Development

of Capitalism in Russia.

Lenin worked squarely within the Russian marxist tradition, which had explicitly rejected Marx and Engels' views on the possibility of a peasant-based transformation of the Russian agrarian sector (Shanin [1984]). Plekhanov, the founder of Russian marxism, had instead argued that from the 1880s Russia had been undergoing capitalist development that had eroded the basis of the subsistence economy, albeit incompletely and unevenly. Plekhanov argued that the effect of this uneven capitalist development in agriculture would be the differentiation of the peasantry as the growth of market production revolutionized property relations and spurred the predominance of private property. It was this thesis that Lenin set out to investigate in the 1890s. As a result of these detailed empirical investigations, Lenin developed a differentiation schema for a late industrializing capitalist economy which specified both the primary mechanisms by which differentiation took place and the classes which emerged as a result of the process. Lenin's differentiation schema is worth examining in depth for two reasons. First, it demonstrates how concrete transformations in the mode of production can be empirically captured. Second, it has played a pivotal role in subsequent debates about peasant class differentiation.

Lenin posited six rural classes undergoing processes of fragmentation and change. At the apex of the rural class structure was

> the big landowners, who, in capitalist countries-- directly or through their tenant farmers--systematically exploit wage-labour and the neighbouring small (and, not infrequently, part of the middle) peasantry, do not them- selves engage in manual labour, and are in the main descended from feudal lords...or are rich financial magnates, or else a mixture of both (Lenin [1968]: 591).

Below the big landowners came another strata of exploiters:

> The big peasants (grossbauern) are capitalist entrepren- eurs in agriculture, who as a rule employ several hired labourers and are connected with the "peasantry" only in their low cultural level, habits of life, and the manual labour they themselves perform on their farms (Lenin [1968]: 590).

Lenin next introduced a strata locked between the clear exploiters and the clearly exploited when he wrote that

> in an economic sense, one should understand by "middle peasants" those farmers who, 1) either as owners or tenants hold plots of land that are also small but, under capitalism, are sufficient not only to provide, as a general rule, a meagre subsistence for the family and the bare minimum needed to maintain the farm, but also produce a certain surplus which may, in good years at least, be converted into capital; 2) quite frequent- ly...resort to the employment of hired labour (Lenin [1968]: 589).

Amongst the clearly exploited, Lenin defined three strata. There were

> the small peasantry, i.e. the small-scale tillers who, either as owners or as tenants, hold small plots of land which enable them to satisfy the needs of their families and their farms, and do not hire outside labour (Lenin [1968]: 587).

There were also

> the semi-proletarians or peasants who till tiny plots of
> land, i.e. those who obtain their livelihood partly as
> wage-labourers...and partly by working their own or
> rented plots of land, which provide their families only
> with part of their means of subsistence (Lenin [1968]:
> 587).

Finally, there were

> the agricultural proletariat, wage-labourers (by the
> year, season or day), who obtain their livelihood by
> working for hire at capitalist agricultural enterprises
> (Lenin [1968]: 587).

For Lenin the main process by which surplus labour was extracted from the exploited was waged labour. Lenin consistently argued that "hired labour is the chief sign and indicator of capitalism in agriculture" (Lenin [1964]: 101). As a result, it could be said that for Lenin the relationship between the individual economic agent and labour hiring defined the essence of the agent's class status under the capitalist mode of production.

For Lenin, in order for surplus to be appropriated from labour it had to be free in the "dual sense" of classical marxism: free to sell labour-power, and free from the means of production. The essential difference between free and unfree labour was the role of extra-economic coercion in extracting surplus labour. If sellers of labour-power were under relatively minimal extra-economic coercion, they were part of a structure that could promote differentiation by raising the

rate of surplus labour extraction. Alternatively, if sellers of labour-power worked under relatively omnipotent extra-economic coercion, then Lenin believed that in reality they were performing a labour service as part of relations of prestation that would retard capitalist development in agriculture. As far as the relative merits of free and unfree labour, Lenin was very clear: pre-capitalist relations of exploitation were more burdensome to the direct producer than capitalist relations of exploitation. As a marxist, Lenin believed capitalism to be progressive relative to what had gone before it, just as it would be regressive compared to what would follow it.

Lenin identified several mechanisms which served to propel the process of peasant class differentiation in Russia by enhancing either relative or absolute surplus labour extraction. Three of these mechanisms can be detailed, because of their disproportionate significance: scale economies, changes in tenancy relations and debt.

Lenin unknowingly mirrored Kautsky when he argued that the emergence of scale economies in agriculture enhances relative surplus labour extraction. As Lenin wrote,

> if the land is not being improved, acreage gives <u>no idea</u> <u>at all</u> of the scale of agricultural operations; it gives <u>no correct</u> idea at all if besides this there are so many substantial differences between farms in the method of

cultivation, the intensity of agriculture, the method of
field cropping, quantities of fertilizers, the use of
machinery, the character of livestock farming, etc.
(Lenin [1964]: 68).

Similarly, Kautsky had written that "a small holding cul-
tivated on an intensive basis can constitute a larger enter-
prise than a bigger farm that is exploited extensively"
(Kautsky [1980]: 75).

Lenin and Kautsky both distinguished between a concentration
in the scale of production permitted by an increase in the
ownership of the total means of production and increases in
the size of the physical units of production in order to
capture the differences in farm asset ownership, cropping
patterns, technology, production, sales, debt and migration
created by the development of agrarian capitalism.

These differences in farms emerged as a result of the degree
of market orientation. The compulsions of market orientation
propelled both the generation of investment-facilitating
surpluses and the establishment of a more effective,
capitalist, division of labour if farms sought to survive.
This in turn permitted the reaping of scale economies at the
level of the production process, the household and the farm
and engendered the emergence of dynamic and efficient units
capable of accumulation. These differences cannot be captured
by simply examining the size of the unit of production.

Instead, Lenin and Kautsky both argued that the increased use of technology per unit of land and the resulting increase in both output and yields meant that farms were large in their scale of production rather than their size of landholding. Similarly, it was the maintenance of static yields and technology that led farms to be small in their scale of production. Lenin believed that farms differed in technical organization when they differed in the purpose of production; indeed, he argued that one can indicate the other. Yet even uncovering technical organization could be difficult, as

> in agriculture, because relationships are so much more complicated and intertwined, it is harder to determine the scale of operations, the value of the product and the extent to which hired labour is employed (Lenin [1964]: 65-6).

The distinction between size and scale lent a new perspective to the argument regarding the most efficient size of holding. It was obvious to Lenin and Kautsky that the larger the size of farm, the more that had to be produced in order to cover costs and thus obtain a given level of income. This did not mean that smaller-sized farms were necessarily more profitable. Farmers on small-sized farms which were also small in scale would be pushed by subsistence to work harder in order to survive while remaining mired in poverty. As Kautsky wrote, for small-scale small-size farmers "the profit did not mean his barns were full; it meant their stomachs were empty"

(Kautsky [1980]: 70).

While the utilization of scale economies in agriculture required stricter conditions than in industry, Lenin argued that diminishing returns would in practice not apply because technological change and the extension of techniques meant that the productivity of both investment and of land would not decline. This was especially so for large-sized large-scale holdings where the potential for technical change was great. Lenin indeed argued that the productivity gains typical of a healthy capitalist agriculture might lead to an absolute decrease in the size of the capitalist farms, as output growth could permit the leasing-out of unneeded low-productivity land. This latter point meant that Lenin could argue that

> capitalism grows not only by accelerating the development of large-acreage farms in extensive areas, but also by creating in the intensive areas--enterprises on smaller tracts whose operations are on a much larger scale and are more capitalist...As a result, the concentration of production in the large enterprises is actually much greater--and the displacement of small-scale production actually goes further and deeper--than is indicated by ordinary data (Lenin [1964]: 102).

In contrast to Engels, the recognition that large-scale holdings did not necessarily require large amounts of land led Lenin to argue that differentiation did not have to solely rely on out and out dispossession of cultivators (Engels 1970]).

Another mechanism of differentiation could thus be changes in the forms of holding of land. Lenin argued that differentiation might take the form of a decline in mortgage and a rise in tenancy. As Lenin wrote, "the class interests of the landowners compel them to strive to allot land to the workers" (Lenin [1964]: 137). This might be done by large-scale enterprises leasing out unneeded land in order to obviate labour shortages during peak periods. In addition, as differentiation led to a concentration in the ownership and control of means of production small plots might fetch high prices and high rents for the landowners; but "the higher price of small plots of land is not due to the superiority of small-scale farming, but to the particularly oppressed condition of the peasant" (Lenin [1964]: 138).

The role of tenancy was thus not theoretically ambiguous to Lenin; rather, it required careful study within the specific context. As with Kautsky, Lenin recognized that certain pre-capitalist forms of tenancy could be maintained in specific circumstances because it secured a labour force and used available capital more completely. He was of no doubt that the position of labour in receipt of an allotment was worse than that of a free waged labourer. Labour with allotments tended to live at the minimum level of the free waged labourers because employers could depress their wages.

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Lenin argued that another mechanism of differentiation was debt. Lenin wrote that the types of debt incurred by the poor and by the richer peasants was different. Small and semi-proletarian peasants became more dependent upon the market over time to maintain subsistence. Although they consumed relatively less than big peasants poorer peasants spent relatively more on basic consumption goods. If they lacked cash to meet needs they went into debt. Given the tenuous economic position of small and semi-proletarian peasants it was not surprising that Lenin argued that a larger proportion of small-scale farmers were indebted. Big peasants on the other hand were both less dependent on the market for basic consumption goods and more dependent on the market to supply production-oriented goods. The bulk of their cash expenditure went on the latter. Given a more secure financial position big peasants were more easily able to secure credit for large investments. As a result, while a lower proportion of large-scale farmers were indebted, those farms held a much larger mass of total debt. Differentiation thus gave rise to different types of debt; one was a sign of weakness while the other a sign of strength.

2.iii) The empirical studies of the Agrarian Marxists

Lenin's analysis served as the methodological starting point for a large body of work carried out in the late 1920s and

early 1930s. Lev Kritsman and the Agrarian Marxists were a group of Soviet economists working in the post-revolutionary period. While their work remains little known, it remains among the most sophisticated and subtle of any done on agrarian structure and change (see Kritsman [1984]; Cox [1986]). This is very largely due to the fact that they emphasized the need for an empirically-based, spatially-sensitive micro-level examination of the differentiation processes underway in the European portion of the U.S.S.R. following the revolution.

The emphasis on empirical study led Kritsman to argue that class relations did not indicate concrete strata but rather tendencies to class formation that could be effected. These tendencies, when combined with the complex interrelations typical of peasant farming structures, precluded the development of a general theory of differentiation. The process of differentiation thus became potentially subject to intervention by political forces with the aim of establishing a particular schema as dominant.

Kritsman argued that the assessment of the forces of differentiation was in fact not one but two interrelated questions. One was the static categorization of farms, which Kritsman termed differentiation. On the other hand there was

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a need to uncover the dynamic determinants of the processes which permitted a static categorization. These dynamic determinants Kritsman termed "stratification", for their connotation of a process.

In assessing both dynamics and statics, Kritsman took as his starting point the idea that amongst poorer farms there would be an insufficiency of the total means of production, whilst amongst the strong farms there would be an insufficiency of labour-power. This gave Kritsman a key insight: that amongst different strata of the peasantry an assessment of stratification would require different data. In that relations of production are a dual process of exploiting and being exploited, this is intuitive. Similarly, the dynamic determinants which give rise to differentiation are unlikely to be the result of a single phenomena. In an economy undergoing a transition in the mode of production, indicators to distinguish between exploiters and exploited should therefore be based upon circumstantially-sensitive differences in the ownership and control of a range of factors of production. The different indicators would however have the same objective, a measure of the appropriation of surplus.

The complexity involved in assessing a transitional agrarian society was due to the interpenetration of structures.

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Kritsman argued that in the long run one dominant structure of class relations would undermine the other structures it was entwined with and impose a new pattern of development.

In the early stages of a transition however Kritsman argued that the situation was much more fluid and volatile. In his own studies and in his criticisms of his fellow Agrarian Marxists, Kritsman did not see in the Soviet Union solidified class categories. He argued instead that Russian peasant households were moving in a variety of directions because the multiple class relations of the transition to socialism were permeating each household.

Each household thus faced different opportunities, incentives and contradictions which opened up both different pressures and different possible reproductive strategies. Faced with this multiplicity of possibilities Kritsman believed that the majority of farms found themselves entwined within relations by which they exploited and in turn were exploited. Transitions in the mode of production thus witnessed an interpenetration of the structures and tendencies of the different modes. In order to assess the trends in stratification, it was therefore necessary to trace emerging dominant patterns of surplus appropriation because these cut across the contradictory class location which many peasant

households found themselves in. As Rahman writes, "it is the relation between households enabling the appropriation of surplus which is very vital" (Rahman [1986]: 55) to the overall pattern of development.

To uncover the balance of class relations, Kritsman proposed the use of "direct class indicators": the hire and sale of labour-power; the rental or leasing of land; and the rental or leasing of capital stock including working animals. The extent of possession or control would then give different types of relations. Yet even direct class indicators on their own were insufficient and would have to be supplemented with additional information, as his criticisms of studies by Agrarian Marxists made clear. For example, appropriation by usury and trade is not adequately captured in the direct indicators. Yet Kritsman believed that usury and trade had a major impact on peasant farmers. As he wrote,

> the basis of usury capital is the instability of the majority of peasant farms, whereas the basis of trading capital is the monopoly of connection with the market...Usury and trading capital are also interlinked, in that trading operators are, to a growing extent in rural life, connected with credit...The widely dispersed phenomenon of advances of grain is accompanied by the unpaid "working off" on the farm of the latter. This is in effect a form of interest on the loan (Kritsman [1984]: 140).

Kritsman further believed labour-hiring as a category was not simple; he argued that "the hiring of rural wage-workers...appears...in covert form" (Kritsman [1984]: 140). Concealed

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labour hire might be seen in intrafamilial exchanges, communal labour service, and even in handicraft labour; yet such instances might not be captured in direct class indicators. The flow of labour hiring might also be complex; for example, a lack of male workers to work a farm might not necessarily lead to the hiring in of labour for the farm but instead to the hiring out of readily available female labour.

Kritsman's key refinements lay however in land and capital stock. As to the former, he argued that "an index of the growth of the economic power of the capitalist part of the peasantry is the growth of rented land, relieving the poor of their land" (Kritsman [1984]: 141), often because "taxes...force the poor to bring their labour-power on(to) the market" (Kritsman [1984]: 140). This argument was directly tied to the post-revolutionary circumstances of the Soviet Union and the fact that disparities in the distribution of land ownership had been widely removed. To Kritsman this had the effect of masking continued stratification. Stratification was not obviated by the increased uniformity in land distribution but continued as a result of accumulation-oriented households moving into alternative channels such as the rental market in land in order to augment surplus appropriation.

Even more importantly however Kritsman argued that the levelling of land distribution had led to a situation whereby

> the growth of the class stratification does not occur as the stratification by land, but as stratification by working livestock. In so far as it occurs in a hidden form, it is disguised as equalization in terms of sown area (Kritsman [1984]: 141).

The basis his insight was this:

> capitalist appropriation of surplus-value is not created by the labour of the hired "worker" with his horse and stock, but by the labour of his hiring "boss"; the labour of the latter becomes possible only because the means of production of the hired man are used on his farm (Kritsman [1984]: 139).

Farms with adequate or surplus means of production thus accumulate by using their working capital to exploit the dependence of the weaker upon the renting-in of working capital. This stratification was part of the "growth of hidden capitalist exploitation" (Kritsman [1984]: 128). Kritsman then reworked Soviet data and found that amongst those with small sown areas little of the sown area had been lost over time but much working capital had been lost. That which remained was often of poorer quality, such as horses that were either old or in ill health.

While Lenin and Kritsman discussed the role of land rental and debt as mechanisms of differentiation, neither placed these two phenomena at the heart of the content of class status in a late-industrializing country, preferring instead to focus upon labour hiring. It is, in this context, worth briefly

noting points made by Mao Zedong (Mao [1967], [1971]).

Mao posited the existence of five agrarian classes in the Chinese countryside. When analyzing the content of class status in China however Mao faced a very different set of circumstances than that faced by Lenin and Kritsman. Although labour hiring was not unknown it was not the sole channel by which exploitation was carried out. Rather, exploitation in the form of rent and debt could, to Mao, also act as a direct indicator of class status. Mao thus argued that for a landlord "the collection of land rent is his main form of exploitation; in addition, he may lend money" (Mao [1967]: 137). Similarly, for richer peasants, while their "main form of exploitation is the hiring of labour (rich peasants may) in addition...let part of his land and practice exploitation through land rent, or may lend money" (Mao [1967]: 138). The focus of these additional types of surplus extraction was the poor peasantry, who "have to rent the land they work on and are subjected to exploitation, having to pay land rent and interest on loans" (Mao [1967]: 139) in addition to hiring themselves out as labour.

Mao thus argued that in the economy of a poor country more important sources of exploitation than the hiring of labour might be witnessed in the dual forms of rent and debt, forms

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which could have contradictory effects on the differentiation process. This argument is worth noting for any study purporting to deal with poorer countries.

Kritsman's understanding that stratification in the European portion of the U.S.S.R. was based upon a loss of working capital over time by weaker farms was the result of a sensitivity to both the complexity of peasant farming and the implications of empirical observation. Similarly, Mao's focus on rent and debt reflected the realities he faced. In both cases, the creative application of marxian analysis is a salutary lesson for any attempt at understanding specific cases of peasant class differentiation.

2.iv) Neo-populist critiques of peasant class analysis

Marxian peasant class analysis has come under sustained criticism from two perspectives over the last twenty-five years. One perspective asserts that it is not resource and asset inequalities that drive differentiation but rather the forces of demography. The theory of demographic differentiation is associated with the work of Chayanov and his followers (Chayanov [1966]). The other perspective is that the peasantry is a single class and thus differentiation does not occur. This perspective is associated with the work of Shanin (Shanin [1972], [1984]). It will be demonstrated that

both perspectives share common approaches to the analysis of peasant social and economic structures. They can therefore both grouped under a common name: the neo-populists. Both shall be examined in turn.

Chayanov worked extensively on the Russian peasantry and aimed at developing a theory of what he termed "family economics" driven by non-market principles. His agrarian work focused upon what he termed the "peasant family farm", a unit that encapsulated the economic functions of production, consumption and distribution in isolation from broader economic processes. While the peasant family farm thus to some extent resembled the primarily self-employed middle and small peasant found in various differentiation schema, Chayanov posited it as the dominant socio-economic strata in rural society. Chayanov's analytical starting point was thus in fundamental disagreement with that of Lenin.

Chayanov argued that the behaviour followed by peasant family farms was very different than that advanced by marxian analysis. The peasant family farm made two key decisions: one was family size; but this in turn was driven by the labour-consumption balance, the second key decision. Being isolated from labour markets, peasant family farms were driven not by accumulation but by subsistence requirements. The

labour-process of the peasantry was dominated by both the work
undertaken and the product received. This in turn went into
making up "the family's single indivisible labour-product"
(Chayanov [1966]: 8), or the total product net of expenses.
The rate of return to peasant labour could be altered by
longer hours of work, greater intensity of work, or by some
combination of both. According to Chayanov, there was
therefore a tradeoff between the satisfaction of needs through
consumption and the sheer drudgery of labour. The tradeoff
was termed by Chayanov the degree of self-exploitation of
family labour. Chayanov's use of language is an implicit
criticism of marxian analysis; whereas to marxists individuals
are exploited by other individuals, to Chayanov an individual
can exploit oneself.

Chayanov asserted that the degree of self-exploitation would
only be raised if the satisfaction from increases in net
product balanced or outweighed the increase in drudgery the
extra labour would entail, thus using the neo-classical
concept of marginal utility. As he wrote,

> there comes a moment at a certain level of rising labour
> income when the drudgery of the marginal labour will
> equal the subjective evaluation of the marginal utility
> of the sum obtained by this labour (Chayanov [1966]: 81).

At this point, well-being is constant and the peasant family
farm is in equilibrium. At any other point the family is in
a state of flux in that the labour-consumption balance is

subject to alteration.

The labour-consumption balance would inevitably be effected by the size of the peasant family, and particularly the ratio of working to non-working members. For larger families the maintenance of the equilibrium labour-consumption balance could necessitate the acquisition of more productive assets. The attempt to maintain equilibrium in the context of changing family size thus gave rise to the acquisition of assets and differentiation. Contrary to Lenin and later marxists changing asset structures thus reflected changing family sizes. Chayanov expressed this when he wrote that

> peasant farms are structured to conform to the optimal degree of self-exploitation of the family labour farm and in a technically optimal system of production factors as regards their size and relationship of the parts (are of importance) (Chayanov [1966]: 92).

The relationship does however include external factors in that

> the form of farm and production created by the family are largely pre-ordained by the objective general economic and natural conditions in which the peasant farm exists. But the volume of economic work itself and the mechanism for constituting the farm derive predominantly from the family (Chayanov [1966]: 128).

Chayanov did not therefore simplistically argue that in a dynamic context changes in the peasant family farm were affected solely by demographic forces. He argued that factors such as the availability of non-agricultural work would effect the labour-consumption balance and thus differentiation. He did however strongly believe that demographic forces were the

primary cause of differentiation.

Chayanov further distinguished his position from that of Lenin when he argued that increasing population would force a shift in resources in order to promote intensification and specialization on the smaller-sized farms which resulted from family partition. The result would be productivity gains and thus improved efficiency on smaller-sized farms. Chayanov argued that productivity differences meant that there existed between peasant family farms of differing sizes relatively little inequality; rather, there were farms with different resources as a result of demographic difference. As the demographic cycle varied, so too would the extent of inequality and differentiation. Chayanov thus conceived of rural inequality as being essentially cyclical.

Chayanov supported his thesis that rural inequalities were the result of the demographic pressures of generational cycles with an array of data gathered by his colleagues in the Organization and Production School. He argued that rural inequality could be addressed by measures which generalized the productivity gains that accrued to some in the peasant family farm sector. Measures to improve productivity included land improvement and consolidation of fragmented holdings; all could be taken easily within the context of the peasant family

farm. Chayanov thus argued that economic development could be compatible with not only the preservation but also the development of peasant family farms in agriculture. In this conclusion he stood firmly against Lenin, who had argued that differentiation would dissolve peasant farming and result in agrarian capitalism.

Chayanov's contribution to the debate over the dynamics of the agrarian question has grown significantly in the past fifteen years. His position throws up many issues which must be addressed by those working within a marxian approach. The most significant issues centre on Chayanov's concept of the peasant family farm. Methodological problems with this concept will be addressed first, to be followed by theoretical problems.

Chayanov repeats one mistake several times: that is, he does not test the validity of his assumptions. Chayanov thus assumes that in Russia 90 per cent of farms fall into the category of peasant family farms. This assumption is nowhere tested, which is surprising given the empirically-supported argument of The Development of Capitalism in Russia that agrarian capitalism was rapidly developing and the role of that book in the debates in which Chayanov was participating. Chayanov also assumes that the family, for all its complexity,

is an egalitarian structure. While this assumption was and is common, it is surprising that someone interested in the dynamics of family economic relations would not at least test its validity in the context of intrafamilial social relations. The family as an egalitarian structure is no longer uncritically accepted, and such an assertion now requires evidence. Another assumption that is made by Chayanov is that capital is fixed in the short and long run and that labour, while fixed in the short run, is variable in the long run. This is contrary to micro-economic orthodoxy, but that is not a serious problem. More importantly, Chayanov fails to test and thus justify the validity of such an assumption. In the failure to test the adequacy of assumptions Chayanov both fails to be sufficiently rigorous in his methods and shares a failing found in orthodox economics.

In addition to his methodological assumptions, Chayanov made errors in his empirical support. This is clearly seen when he attempted to buttress his argument through the use of correlation coefficients. He argued that such coefficients proved his point, even when many of them were of low values such as .42. It is thus unsurprising that Harrison is able to take Chayanov's data, regroup it, reanalyse it, and find that while there may be a correlation between family dependency ratios and inequality amongst the peasantry, the correlation is

insignificant and thus the "correlation alone does not imply an undifferentiated peasantry" (Harrison [1977a]: 32). As Harrison writes, "the evidence for (Chayanov's) propositions is unsound" (Harrison [1977b]: 330). As Patnaik has noted, much of Chayanov's evidence dealt with areas of the Soviet Union subject to special redistributions with the express aim of maintaining equality, and with institutions established to support that equality (Patnaik [1979]). Chayanov was thus very often dealing with unique circumstances.

At a theoretical level, two criticisms can be levelled at Chayanov. First, the theory he presented was static. As Kritsman argued at the time, by assuming an absence of accumulation and technical change Chayanov ignored the possibility that the development of the forces of production would transcend ecologically-given limits to productivity. Chayanov thus misconstrued the static nature of specific agricultural techniques for limits to the development of the forces of production. Yet accumulation can remove this constraint.

The second criticism is even more fundamental. Patnaik has argued that Chayanov was internally inconsistent (Patnaik [1979]). He fell into this trap when he denied the significance of the social division of labour. Chayanov argued

that the Russian peasantry was homogenous and broadly stable;
that differences in holdings could be unified into the concept
of the peasant family farm; and that equilibrium came about
through a process of maximization between production and
consumption decisions.

Chayanov thus argued, in orthodox language, that a production
function showing the efficiency of resource allocation and the
efficiency of production decisions could be constructed.
Despite Chayanov's claims that he was not a marginalist
economist, this is essentially marginalism. If however
different production objectives, resource constraints, and
technical production levels could be shown to be present,
Chayanov's argument would fall away, for farms would then have
different production functions. Such was and is indeed the
case: production objectives, labour availability and
technical efficiency are not homogenous. Indeed, the blatant
inequality in the distribution of the means of production was
recognized by Chayanov himself. When Chayanov writes

> it is self-evident that to achieve good results in
> livestock farming, one must have good techniques and be
> well organized, but it is at least as important to have
> a market situation favourable to this sector (Chayanov
> [1966]: 128).

he implicitly accepts that differences in techniques, or-
ganization and market situation also exist. As the Agrarian

Marxists argued, it is these very differences that gave rise to fragmentation between peasants. It is these very differences that gave rise to alternative subjective evaluations of labour drudgery. The constraint on the use of labour was therefore not the work/leisure tradeoff implicit in the labour-consumption balance, but rather underemployment that could be squeezed in times of relative difficulty. These considerations make it quite plausible to argue that rather than family size determining farm size, as Chayanov argued, farm size determined family size. Regardless of the validity of such a position, it is apparent that Chayanov's work, for all its elegance, has major methodological and theoretical difficulties and thus fails to compromise the marxian analysis of agrarian structure and change.

Shanin would dispute the categorization of his work as neo-populist. Yet despite the subtlety of his work certain features in his analysis bear a striking resemblance to that offered by Chayanov. It is thus the case that whereas Chayanov focused on what he considered to be the dominant homogenous strata in rural society, the peasant family farm, Shanin argues that "the peasants' position in society consists in their being...a social class" (Shanin [1988b]: 358) within which "the family farm...is the most significant characteristic" (Shanin [1988a]: 5). The similarity is fur-

ther apparent in Chayanov's argument that over the long term rural society was broadly stable around an equilibrium labour-consumption balance, subject to short and medium term cyclical fluctuations based upon demographic cycles. Shanin has likewise emphasized that peasant "social reproduction and other cyclical rhythms...do not lead to changes of social structure but rather reinforce its stability" (Shanin [1988a]: 6). Finally, it should be noted that Shanin asserts that budget studies "empirically validate...Chayanov's general theory of peasant economy and mobility" (Shanin [1982]: 235).

The key difference between Chayanov and Shanin appears not to be one of substance but rather one of degree. Chayanov saw short and medium term differentiation being eroded in the longer term, whereas Shanin argues that within peasantries are high degrees of multidirectional and cyclical mobility which generate complementary trends of levelling and differentiation which appear to operate over quite short time horizons. For Shanin then short term cyclical mobility means that differentiation does not as such occur. It is thus the case that larger farms are quickly partitioned, small farms merge when the poor migrate, and farms are redivided over time by the peasant community. It is interesting to note that Shanin emphasizes changes in the ratio of consumers to workers as being a key variable in the cyclical mobility which erodes

differentiation.

Shanin's arguments can be quickly dispensed with, especially given his empirical support. Shanin uncritically uses data from Chayanov's Organization and Production School without realising that the data would have to be reworked to match the needs of his concepts. The data of the Organization and Production School is itself flawed in two ways. Firstly, it does not follow the progress of those who cease to be peasant producers. This distorts the data towards an assumed stability (Littlejohn [1973]). Secondly, and more importantly, the data encompasses a range of pre-capitalist and capitalist forms of production. The Organization and Production School based their research on the Chayanovian peasant family farm and did not concern themselves with changes in the organization of farms or in the basis of wealth. Different forms of landholdings are thus combined into one "ideal-type" of farm. If the effects of this are discounted, then it is possible to argue that the peasantry is one class located in the commune. If however different forms of landholding are significant and indicative of different productive purposes then in reality an articulation of modes of production and a differentiated peasantry are present. Shanin's argument that there is no differentiation of the peasantry is thus not proven.

3. Conclusion

The differentiation perspective developed by classical marxists has been very influential amongst those non-neo-populist political economists engaged in the study of the transition to agrarian capitalism in poor countries. The perspective attempts to understand transformations in the mode of production by referring to observable phenomena indicative of property relations, labour-processes, and the appropriation of surplus labour. Phenomena which thus details the basis of differentiation would include the ownership and control of a range of factors of production comprising labour, land and capital. It is also possible to observe some of the mechanisms by which the process of differentiation and the transformation in the mode of production had taken place. This would include amongst other aspects an expansion of market orientation, the presence of scale economies, alterations in tenancy regimes, and the use of debt. Importantly, the perspective enjoins caution; multiple class relations permeate households and hidden forms of exploitation emerge.

While the critique of peasant class differentiation offered by the neo-populists is itself theoretically unsustainable, the differentiation perspective does share a problem with neo-populist, and indeed classical and neo-classical, concept-

ualizations of the basis of agrarian change: its examination of transformation occurs at the level of the household and is oblivious to intrahousehold relationships. It is to addressing the problem of intrahousehold relations that the study now turns.

CHAPTER THREE:

THEORIZING THE SEXUAL DIVISION OF LABOUR

1.   The gender-typing of tasks

It has been argued in the previous chapter that modes of
production can consist of several forms of the labour-process.
Despite this, the allocation of individual agents and their
labour to one fundamental labour-process seems especially
rigid.   Specifically, it is possible to posit a system of
allocation of agents to positions within the labour-process on
the basis of sex (Kuhn and Wolpe [1978]), a sexual division of
labour which appears to be considerably more resilient than
other divisions of labour.

It is important to be precise on this matter: while the
application of women's labour to production processes outside
the household has varied considerably over time, it is within
the household that the labour-process seems to be subject to
only minute variations over very long periods.   The gender-
typing of tasks is most regimented in those activities which
focus upon human reproduction: caring, cooking, and cleaning.
In many societies these tasks are indeed tied to the dominant

gender identity of women. Gender identities are not purely biologically determined but are social constructs. The rigidities of the household labour-process must therefore be conceptualized as a problem of political economy.

Debates concerning the political economy of the sexual division of labour have resulted in only two broad areas of agreement: firstly, that women's subordination preceded the development of capitalism; and secondly, that the separation of the household and the non-household economy into two dual systems is misguided (Lewis [1985]: 108). Lack of agreement concerning systematic explanation of the sexual division of labour is also a feature of marxian analysis. Indeed, Beechey writes that marxism "has proved totally inadequate to the task of analyzing the oppression of women" (Beechey [1987]: 114). This does not mean however that marxism provides no analytic categories of use in theorizing the sexual division of labour. It can in fact provide a reasonably adequate starting point in The Origin of the Family, Private Property and the State (Engels [1985]).

In The Origin, Engels wrote that

> according to the materialistic conception, the deter-
> mining factor in history is...the production and repro-
> duction of immediate life. This...is of a twofold
> character: on the one side, the production of the means
> of existence, of food, clothing and shelter and the tools
> necessary for that production; on the other side, the

> production of human beings themselves, the propagation of
> the species. The social organization under which the
> people of a particular historical epoch and a particular
> country live is determined by both kinds of production
> (Engels [1985]: 36).

Engels' fundamental point remains valid: the interrelation-

ship of production and reproduction is central to the his-

torical process. Investigation of the interrelationship

between production and reproduction provides a useful point at

which to commence an analysis of the economics of the sexual

division of labour. It is however important to preface such

an investigation by stating that while studies of the

economics of the sexual division of labour under pre-

capitalist modes of production do exist, they are compara-

tively rare. Most attempts to understand the economics of the

sexual division of labour have been largely focused upon the

capitalist mode of production. This is true even in those

relatively recent studies which focus upon the poorer

countries (see for example Beneria [1982]; Young et al.

[1984]; Afshar [1985]; Bardhan [1985]). It is therefore the

case that much of what follows in this chapter will be rooted

in the capitalist mode of production; it will however attempt

to remain aware of the nuances implicit in the articulation of

modes of production.

2. The family-household system

If looking at the capitalist mode of production, it is

apparent that production is for the purpose of accumulation while reproduction is for the maintenance of life, otherwise termed subsistence. Another way of characterizing these two processes would be the production of exchange-value and the production of use-value. It is further possible to identify two sites within which these economic processes are carried out: the non-market-oriented household economy and the market-oriented non-household economy. In capitalism it is within the non-household economy that production of exchange-values for accumulation occurs while it is within the household economy that production of use-values for subsistence occurs. It is because the purpose of activity in each economy differs that the labour-processes and the concomitant relations of production of the two economic spheres also differs.

Economic agents can thus be entwined within two different sets of relations of production. It can be noted that this is not an exclusive characteristic of the capitalist mode of production. It is the family-household system which mediates these two sets of relations of production. The family-household system of the capitalist mode of production can be conceived of as

> residential units which, if not themselves biologically reproductive, are derived from biologically reproductive units. Some of their members sell their labour-power to purchase or produce by direct production the goods and

> services vital to the maintenance and well-being of the members of the unit. The producing and consuming collectivity is normally surrounded by ideologies of sharing and self-sufficiency (Whitehead [1984]: 97).

More generally, the family-household system is

> a social institution that embodies a particular pattern of relationships among individuals as biological and social beings...(and) an ideological concept through which people express their ideals about how biological and social reproduction ought to be coordinated...Both as an institution and as a conception,...(it) mediates between people's definitions of themselves as individuals and as members of society (Coontz [1988]: 12-13).

In the family-household system three material elements effect the pattern of social relations: production, consumption, and reproduction. It is worth noting that three types of reproduction simultaneously occur: biological reproduction, labour force reproduction and social reproduction (Edholm et al [1977]). The way in which the three material elements are constructed forms the basis of the differential engagement in labour-processes by gendered economic agents. The configuration of social relations found within the family-household system is however further affected by ideologies which form the basis upon which the gender difference of economic agents is constructed. The family-household system is thus the locus of a complex web of material and ideological forms.

Differential engagement in labour-processes is the main

concern of an economic analysis of the sexual division of labour. In order to proceed with such an analysis however it is first necessary to understand the historical and ideological basis of the sexual division of labour.

3. Historical aspects

The family-household system is a historical phenomena. Changes in the family-household system, and thus the sexual division of labour, occur, as argued above, for material and ideological reasons. These two aspects are themselves intricately entwined, with changes in the material aspects of the family-household affecting gender ideology and vice versa. Household forms can thus undergo structural change and family definitions alter.

An understanding of the dynamics of the family-household system must be linked to a study of its role within a dominant mode of production and the demands such a mode of production places upon family-household members. This is not an assertion of functionalism. It is rather a conception of the family-household system as an institution within a mode of production which adapts to the differing requirements of production and reproduction and which reflects the balance of forces (Seccombe [1991]). In this context it is important to disavow any "grand historical pronouncements about the

relationship of family history to industrialization" precisely because the specific family-household system is "embedded in the...social relations of society" (Coontz [1988]: 17).

By recognizing that family-household systems are historically specific it is possible to comprehend the origins of the sexual division of labour and the fact that ""the male supremacist complex" arose under specific historical conditions interacting with particular social structures" (Coontz and Henderson [1986]: 20). Considerations of space allow however only a fragmentary outline of the historical origins of the family-household system and the sexual division of labour.

It is now widely argued that the sexual division of labour emerged in the structures of lineage and kin corporate societies (see for example Coontz and Henderson [1986]). In these societies subsistence production required attempts to produce surpluses in order to ensure reproduction. The division of labour in such societies was initially based upon sex for pragmatic reasons: technical change encouraged the development of hunting parties that of necessity had to be mobile and relatively unencumbered, whereas agricultural production required a stable labour force that easily encompassed nursing mothers, the young and the old. Products could

then be exchanged within groups on a regular basis and any surplus that was generated could be redistributed through the cultural activity of feasting (Leibowitz [1986]).

Differential surplus generation between lineages inevitably entailed the emergence of ranked lineages. This, in turn, meant that lineages with relatively low surpluses were less able to reciprocate through redistribution. In these cases, lineages with lower surpluses reciprocated through the provision of labour. This in turn promoted the generation of more surplus by the relatively wealthy lineage and the foundations of structural inequality were thus established (Friedman and Rowlands [1977]; Chevillard and Leconte [1986]; Coontz and Henderson [1986]: 126-9; Leibowitz [1986]).

This transfer of the labour force was not however indiscriminate. A specific sex was preferred. In pre-plow agrarian societies females' dual role as both agricultural producer and reproducer made them of focal importance. Access to females facilitated both production and reproduction and thus enhanced the capacity to generate surplus. It was thus the case that the augmenting of the labour force in fact augmented the female labour available to the lineage. Augmenting the female labour of a ranked lineage did not however generate control over the products of female labour.

Such a guarantee was only obtained through the construction of cultural ideals which grew alongside exchange between groups and indeed served to regularize inter-group exchange. It was thus the case that incest rules, exogamy and patrilocality all gave opportunities to intensify, expand and appropriate female production through the coercive atomization of individual females. In that these cultural constructions facilitated a certain rigidification of tasks they also eased the movement of females between ranked lineages. The result was that the initially pragmatic sexual division of labour became a proscriptive one. Social choices facilitated the control of female labour and resulted in relations of subordination within the structure of the family-household.

The pre-industrial family-household witnessed the institutionalization of social relations of subordination, allowing males to control labour and property. While production, consumption and reproduction existed unitarily within the family-household, males worked primarily but not exclusively in the non-household economy and females worked primarily but not exclusively in the household economy. Co-operation between the sexes was essential to survival, but in that the labour-process of the household economy was controlled by the male family-household head such co-operation was not egalitarian. Subordination was ideologically

supported through social institutions such as the church. As Sacks has argued the sexual division of labour thus put effective control of the means of subsistence in male hands (Sacks [1974]).

The transformation of the pre-industrial family-household in the development of capitalism witnessed the removal of elements of the household economy to the sphere of the non-household economy. Capitalism removed production for accumulation from the household economy while maintaining in that economy subsistence production. Exchange-value production was thus taken up by the capitalist production process while use-value production remained in the domain of the household economy. It was therefore the case that two labour-processes characterized by two sets of production relations became clearly demarcated as capitalism developed. The assignation of places by sex to the two labour-processes was conditioned by the pre-existing relationships which characterized the household economy and the family-household system. Women thus did not move into waged labour but became a reserve army; the pre-capitalist sexual division of labour mapped itself onto capitalist forms of production. At the same time the ideological aspects of male power were further institutionalized through the law, education, producer associations and the like.

While capitalist patriarchy is thus historically specific it is nonetheless part of the long-standing political and economic character of male/female relations which are built upon the structural control of female labour and labour-processes. Central to such structural control is the family-household system, which changes as the rhythmns and patterns of dominant forms of surplus appropriation within a mode of production make different demands upon the members of the unit (Coontz [1988]; Seccombe [1991]). Structural control makes female claims upon shares in net household product conditional upon the fufilment of ideologically-based ideals concerning behavioural patterns and relational roles which merely serve to deepen subordination (see Pearson et al [1984]).

4. Ideological aspects

It is apparent that through history the material appropriation of female labour has been facilitated by the mobilization of ideology. In order to understand the specific resonances of female subordination under capitalism it is beneficial to examine the way in which ideologies are constructed within the capitalist mode of production. Such an analysis focuses upon the construction and meaning of sexual identity: the gendered personality, temperament, and subjectivity itself. The principle site of the expression of sexual identity is the family-household, a structure enmeshed in and reproducing the

ideology of patriarchy.

Barrett has defined ideology as "a generic term for the processes by which meaning is produced, challenged, reproduced, transformed" (Barrett [1980]: 97). An ideology thus gives subjectivity to individuals. Subjectivity is not however imposed; rather, it is negotiated. As Gramsci argued,

> it may be ruled out that immediate economic crises of themselves produce fundamental historical events; they can simply create a terrain more favourable to the dissemination of certain modes of thought, and certain ways of posing and resolving questions involving the entire subsequent development of national life (Gramsci [1971]: 184).

The material terrain is thus an arena of ideological negotiation and struggle between social forces, including classes, in which several outcomes are possible. To ensure favourable outcomes, dominant class forces pursue strategies consistent with the idea that

> an historical act can only be performed by a collective man, and this presupposes the attainment of a "cultural-social unity" through which dispersed wills, with heterogenous aims, are welded together on the basis of an equal and common perception of the world (Gramsci [1971]: 349).

This Gramsci characterized as a "historic bloc", an alliance of social forces led by the dominant class force.

The ideological terrain upon which dispersed wills are welded together is what Gramsci termed "common sense": "a chaotic aggregate of disparate conceptions" (Gramsci [1971]: 422), a

set of attitudes, moral views and empirical beliefs reflecting

an individual's concrete experiences in society but lacking in

consistency or cohesion.   Gramscian common sense is given

consistency through the mediation of what Gramsci termed

"organic intellectuals".   Organic intellectuals are

> the thinking and organizing element of a particular
> fundamental social class.   These organic intellectuals
> are distinguished less by their profession, which may be
> any job characteristic of their class, but by their
> function in directing the ideas and aspirations of the
> class to which they organically belong (Hoare [1971]: 3).

Intellectuals arise because

> every social group, coming into existence on the original
> terrain of an essential function in the world of economic
> production, creates together with itself, organically,
> one or more strata of intellectuals which give it
> homogeneity and an awareness of its own function not only
> in the economic but also in the social and political
> fields (Gramsci [1971]: 5).

Intellectuals not only foment unity on a economic, social and

political plane within the dominant class; they also translate

this unity into a moral and intellectual leadership which

transcends class divisions.   As Gramsci argued,

> the intellectuals are the dominant group's "deputies"
> exercising the subaltern functions of social hegemony and
> political government.   These comprise:
> 1. The "spontaneous" consent given by great masses of the
> population to the general direction imposed upon social
> life by the dominant fundamental group (Gramsci [1971]:
> 12).

At the same time, the resulting ideologies

> have a validity that is "psychological"; they "organize"
> human masses, and create the terrain upon which men move,
> acquire consciousness of their position, struggle, etc.
> (Gramsci [1971]: 377).

The validity of such ideologies lies in the fact that while their concrete content is premised upon the moral and intellectual leadership of a dominant class force it must be consistent with the lived experience of the subaltern social forces. Subordination is thus not externally imposed but, more crucially, through the mediation of the intellectuals, is internalized as a part of culture, consciousness and identity. Intellectuals thus give flesh to bare skeletons of subordination by building the moral and intellectual hegemony necessary for domination to be reproduced through a broad social consensus rooted in a common culture. At the same time however, because ideologies are formed through a process of mediation they can never be universal.

The ideas of Gramsci can be applied to the ideological processes which surround gender oppression under capitalism. Patriarchy is a concept that can be taken "to refer to male domination and to the power relationships by which men dominate women" (Beechey [1987]: 95). The key to the sustenance of such patriarchal power is ideological. Gender ideology concerns those aspects of life experience that differ between the sexes. These differences are then used by the intellectuals in the construction of a subjectivity that invests shared experience with different meanings. Such a construction revolves around biology.

The power of gender ideology lies in its capacity to conflate the biological with the social and thus render as "natural" the assignation of tasks by sex. Biological sex is a powerful, available metaphor for organizing society, generating a system of symbols which can interact with both the environment and social institutions to structure relationships between the sexes. Using biological difference, intellectuals define men and women asymmetrically with respect to each other. Disposition of sexuality and general social behaviour is then constructed around "common sense" ideals of biology. Behavioural "ideals" are extended to exclusion from certain practices and inclusion in others, often depending on whether the practice is public or private. Sexual difference becomes transformed into gender ideology.

Behavioural ideals become embedded in language, with words becoming both gender ascriptive and gender bearing (Whitehead [1979]). They also become reflected in the internal structure of the family-household. Men subordinate women, older women subordinate younger women, and men and women subordinate children. Gender difference and power structures may be further reinforced when members of the family-household do not have the same relationship with the social institutions of the state and the market. Asymmetrical responsibilities between males and females thus extend beyond behaviour to encompass

family-household organization and authority, production and distribution.

In civil society teachers, clergy, the media, lawyers, trade unions, friendly associations and others act as the organic intellectuals of the dominant class by interpreting and structuring the lived experience of individuals. First encountered by children in the family-household, "common sense" is expressed in the explicit and implicit assertion of male supremacy. Patriarchal "common sense" may be buttressed by family-household reproductive strategies, which

> mobilize...members to take maximum advantage of their particular relationship to the means of production, which means perpetuating the system even while attempting to change its own place in it (Coontz [1988]: 17).

The ideological configuration of the reproductive strategy of the family-household may thus be perpetuated and "common sense" reinforced. The family-household system can thus both express male power and stabilize the capitalist mode of production.

"Common sense" is backed up by state power. Male control of the family-household structure is supported by male control of other social institutions. The rules and values of both civil society and the state are mutually reinforced through a familial ideology which universalizes, as the rational and valid interests of all society, fundamentally male interests.

Central to the maintenance of patriarchy is the delegation of authority and the integration of a few subordinates into the dominant group. As a result, to some extent internal control can be devolved from men onto women. This mechanism not only allows women to become agents of their own subordination; it also promotes an internalization by women of values which may be fundamentally opposed to their own self-realization. Within the subordinate group emerges what are in essence vertical relations of prestation similar to patron-client relations.

The embedding of differing perceptions by sex is an ideological phenomena. At the same time, in that the logic of the ideology structures family-household organization it also effects the household economy of the capitalist mode of production through the reinforcement of the sexual division of labour. This must affect the non-household economy as

> economic techniques, Gramsci insists, have human relations built into them; they do not exist in a void, they incorporate "mental instruments, philosophical knowledge" (Femia [1987]: 118).

The result is the "materiality of ideology" (Althusser [1971]). As gendered economic agents become represented in the ideologies surrounding the relations of production of the household and non-household economies, each sex comes to have a different relationship to different areas of the economy as the gender hierarchy itself becomes embedded in the capitalist

economic structure. These processes are continuously constructed and reconstructed. As social constructions they are not inevitable but are contingent upon historical developments which centre upon the balance of forces and the role of such an ideology in reproducing the mode of production.

The comments offered above are both explanatory and broadly consistent with much of the literature on the historically-created and ideologically reconstructed rigidities which surround the economic aspects of the sexual division of labour. Although limited by a primary focus upon capitalism, they do make it possible to focus on the specifically female engagement in the labour-processes of the household and non-household economy found within that mode of production. It should however be stressed that within the economics discipline a much lower degree of consensus exists concerning the sexual division of labour. The next section is therefore by definition more speculative than conclusive.

5.   Economic aspects

At an economic level it is apparent that it is within the family-household system that decisions are made and implemented concerning tradeoffs between production, consumption and reproduction. These decisions must affect the assignation of gendered labour to the labour-processes of the household

and non-household economies. They would thus affect the control of labour. They would also affect the access to productive resources of gendered economic agents.

In the capitalist mode of production it remains widely held as an ideologically-formulated ideal that females engage in subsistence production in the household economy while males engage in production for accumulation in the non-household economy. Subsistence production in the household economy would thus by and large be performed by females for historical and ideological reasons. Although subsistence production is qualitatively different than production for accumulation it can be thought of as existing "alongside" such production.

Subsistence production is where

> human life and vital capacity to work are continuously produced and reproduced. Subsistence production includes work related to pregnancy, childbirth, nursing and educating children, as well as that required in production and transformation of food, clothing, housing, and the physical and psychological demands associated with sexuality (Bennholdt-Thomsen [1984]: 42).

The relations of production found within the household economy's subsistence production appear to differ from those found within a capitalist firm for the twin reasons of non-commodity production and labour-processes which are held together by extra-economic compulsions. It seems fairly clear that in that the products of subsistence production are not

produced for exchange in the market, they are not commodities. They are be use-values, usually produced for direct satisfaction through individual consumption. At the same time, subsistence production is seemingly performed in atomized production units within which the relations of production appear to be the result of implicit conjugal contracts defining "the terms (by) which husbands and wives exchange goods, incomes, and services, including labour, within the household" (Whitehead [1984]: 93). It is apparent that the implicit conjugal contract is legitimized by "the presumption of familial affection and the love of husband and wife(, which) obscure this economic relation; hence it is a question of ideology" (Bennholdt-Thomsen [1984]: 46). The conjugal contract could thus be conceptualized as an extra-economic compulsion for the performance of subsistence production.

In capitalism subsistence production is not exchanged for a wage; rather, subsistence producers can be thought of as receiving a share of net household product, which may contain a wage. If it is accepted that the value of the share of net household product accruing to those performing subsistence production may be less than the cost of purchasing such services on the market, it then follows that if measured in terms of the market-determined opportunity cost of labour the

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renumeration for the performance of work in the household economy is below that obtained in the non-household economy. Assessed in terms of the returns to labour, the conjugal contract would not therefore result in the exchange of quantitative equals. At the same time, if assessed in terms of the results of work performed in the household and non-household economies, the conjugal contract does not result in the exchange of qualitative equals--one produces use-values, the other exchange-values. These inequalities would thus have been obscured by the private and non-market oriented nature of subsistence production. The fact would remain however that the conjugal contract, predicated as it would be upon unequal exchange, would result in a family-household system that was in economic terms hierarchical. It can be noted that while this logic differs from that recently offered by Carling, who uses rational-choice theory to propose that the renumeration to female household labour must be greater than the renumeration to female non-household labour, the results of both analyses are the same: that unequal exchange is the fundamental economic aspect of the family-household system (Carling [1991]: 153-181).

The specific form of subsistence production in the household economy will of course depend upon the reproductive strategies engendered by a mode of production. Regardless of form

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however in the capitalist mode of production subsistence production within the household economy can be thought of as producing and replenishing the labour required by capital. As Marx wrote, "the maintenance and reproduction of the working class remains a necessary condition for the reproduction of capital" (Marx [1976]: 718). Subsistence production would therefore be integral to the complete process of capitalist production, reproduction and accumulation even if it was not formally subsumed within such a process.

Subsistence production thus not only regenerates labour; it may also assist in the valorization of labour. This however may not be the only wider economic impact of subsistence production, for it is possible to conceive of subsistence production also effecting the rate at which surplus labour is extracted from the exploited. For Marx, "the value of labour-power is the value of the means of subsistence necessary for the maintenance of the labourer" (Marx [1954]: 167). Marx further argued that the value of the means of subsistence is the value of the labour-power which goes into the creation of these subsistence commodities. This is however a circular argument. The labour time necessary to replenish labour for the non-household economy is not equivalent to the labour-power embodied in the means of subsistence because subsistence production is also required to convert commodities into use-

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values which are capable of regenerating labour. Subsistence
production could therefore be thought of as lowering the
overall value of labour-power by producing use-values that
contribute to the reproduction of labour-power without being
accounted for in wages equivalent to the value of the means of
subsistence (Harrison [1973]; Beechey [1987]). Marx clearly
missed this important possibility, which has implications for
the dynamics of the sexual division of labour.

By affecting the rate at which surplus labour is extracted,
the family-household system would present capital with the
possibility of two strategic alternatives. Firstly, by
producing consumable use-values needed by a male earner to
maintain regeneration of labour the subsistence production of
females would lower the value of the male's labour-power and
concomitantly make possible an increase in the surplus labour
extracted. It would therefore be logical for capital to
maintain subsistence production. Alternatively, by drawing
into industry other members of the family-household the costs
of reproducing labour-power would be spread more widely. As
Marx wrote,

> machinery, by throwing every member of that family on to
> the labour market, spreads the value of the man's labour-
> power over his whole family. It thus depreciates his
> labour-power. To purchase the labour-power of a family
> of four workers may, perhaps, cost more than it formerly
> did to purchase the labour-power of the head of the
> family, but, in return, four days' labour takes place
> instead of one, and their price falls in proportion to

> the excess of the surplus labour of four over the surplus labour of one. In order that the family may live, four people must now, not only labour, but expend surplus-labour for the capitalist... (This) raises the degree of exploitation (Marx [1954]: 395).

To attain this outcome members of the family-household would have to be drawn into production. This would mean in turn the end of subsistence production.

It is possible to think of ways in which the latter strategy would have additional benefits for capital. The family-household system assists in the generation of the social assumption that the value of female labour-power is lower than that of males (Gardiner [1975]; Beechey [1987]) and therefore enables capitalists to pay women a lower wage. This wage relation in turn serves to reinforce the social assumption regarding female labour-power. Three interlocking factors support and reinforce this assumption. Firstly, women have had and continue to have on the average lower training than men. As less-skilled labour, the cost of reproducing women's labour is lower and hence the lower the value of the labour-power. Secondly, familial ideologies and the assumed ideal of family-household structures means that women are not expected to bear the whole cost of reproducing their labour-power. This assumption of dependence means that capitalists can pay women a wage below the social average value of labour-power. As Marx noted,

> forcible reductions of wages below...(the) value (of
> labour-power) plays...in practice (an) important
> part...It, in fact, transforms, within certain limits,
> the labourer's consumption fund into a fund for the
> accumulation of capital (quoted in Beechey [1987]: 44).

Thirdly, women form a highly flexible, easily disposable com-
ponent of the reserve army of labour that can be attracted
into expanding branches of production and released from
contracting branches of production. As part of the reserve
army women increase competition between workers, depress
wages, increase the rate of exploitation, and thus counter the
tendency of the rate of profit to fall. Their reserve status
means that women have lower rates of unionization, and because
they are assumed to be "dependent" they are more easily made
redundant, have fewer claims on and receipt of state benefits,
and have a horizontal flexibility between jobs, whether full
time or part time.

It can also be noted that as the average value of labour-power
is socially generated the introduction of female labour-power
may serve to lower the social average value of labour-power,
thereby raising the rate of exploitation. As a consequence,
the utilization of female labour-power could be beneficial to
capital as it has a capacity to bring forth a higher surplus
both in its own production activities and in its effects on
socially-necessary labour time. This capacity is confirmed by
studies which show that women have lower unit labour costs and

higher productivity than men (Elson and Pearson [1984]: 22).

If such is the case it then has to be explained why more women are not taken into production for accumulation. An answer may lie in the contradiction between the demands of accumulation and the demands of subsistence production. For accumulation to continue labour must be regenerated. For this to be done under specifically capitalist conditions would entail a massive increase in socially-necessary labour time performed by workers as the transformation of the means of subsistence into use-values would have to be purchased on the market as exchange-values rather than be performed without charge by family-household members. As a result of the raising of socially-necessary labour time it could be expected that the rate of surplus labour extraction would be lowered.

The two possible strategies of ending or using subsistence production would thus generate a contradiction which arises out of their effect on the rate of surplus labour extraction. As Himmelweit and Mohun write, "women have become the focus for the contradictions between the needs of capital, as accumulation continues, for an increased wage-labour force and its need to maintain the nuclear family" (Himmelweit and Mohun [1977]: 18). The sexual division of labour can thus be thought of in economic terms as a contradictory phenomena.

6. The specificity of peasant production

Subsistence production takes a variety of forms that are continuously being created and recreated. Given the object of this study it is of use to briefly note some aspects of the subsistence production undertaken in peasant economies. As in other forms of subsistence production the peasant produces use-values which precede the physical regeneration of labour and thus pre-figure any selling of labour-power in the non-household economy. In a peasant economy subsistence production includes domestic work performed largely by women and agricultural work which may be performed by various members of the family-household. The agricultural work of the peasant may also be part of the non-household economy. The sexual division of labour effects the allocation of family-household members to subsistence production work in the household economy. Differential products can be thought of as being exchanged within and between family-households to meet personal and collective consumption needs. It is important to note however that in partly commoditized economies the work/leisure divide and the intermittent nature of much work makes a clear division of work in the household and non-household economies difficult, as they form an overlapping continuum.

In peasant economies, the sexual division of labour would

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serve to lower the value of labour-power of males pushed by economic forces into paid work. As Beechey writes,

> capital can pay wages below the value of labour-power where his wife is engaged in subsistence production through which she can contribute to the reproduction of herself, her children and her husband (Beechey [1987]: 62).

In that intrafamilial labour deployment maintains the reproduction of the family-household in the face of poverty the sexual division of labour can be seen as a survival mechanism. It remains however an inegalitarian form rooted in unequal exchange.

Gender subordination dynamically interacts with the development of capitalism in agriculture. Differentiation, mechanization and proletarianization will affect the sexes in both uniform and different ways, the latter occurring because of the differential labour-processes within which each sex in engaged. As a result of differentiation processes and the concomitant transformations in the reproductive strategies of family-households, it can be expected that the alignment of material and ideological elements within the family-household system will alter. Structures of subordination within the family-household and exploitation would thus often become the centres of struggle between individual agents, social forces and social institutions. The outcome of such struggles is not predetermined. Gender struggles could therefore precede class

struggles and play a role in shaping the structures that determine class formation and class action.

7. Conclusion

The family-household system is a matrix of ideological and material relations. While the precise contours of family-household systems are historically contingent, it is primarily within the family-household system that gender difference and hence sexual subordination is expressed and reconstructed. In the capitalist mode of production the sexual division of labour found within the family-household system appears to be a contradictory phenomena. While the deployment of female labour in capitalist production may have specific advantages, the seeming contradiction between the demands of accumulation and the demands of subsistence production may be a dynamic that ensures that females remain predominantly located within the sphere of the household economy. The outcome of the subsistence production which takes place in that sphere is the regeneration of labour which is then available for deployment in the household and non-household economies. In economic terms the relations of production surrounding the subsistence production of use-values within the family-household system can be argued to result in an unequal exchange of labour for shares of net household product. If effort is indeed unequally allocated, then it should be possible to empirically

capture this material aspect of the sexual division of labour.
The following chapter addresses this task.

CHAPTER FOUR:

THE PATNAIK-FOLBRE METHOD

1. The basis of classification

The purpose of this study is to examine two interrelated phenomena. Firstly, to examine the economic characteristics of peasant family-households in the North-West Frontier Province of Pakistan. Secondly, to examine the way in which the distribution of labour expenditure is shared within the family-household unit. The purpose of this chapter is to draw together into a consistent and coherent method the analytic perspectives concerning the two questions that have been developed in the previous three chapters. A method will be demonstrated based upon an application of the work of Utsa Patnaik and Nancy Folbre (Patnaik [1978], [1987], [1988]; Folbre [1982]), from now on referred to the "Patnaik-Folbre method".

In order to ascertain the economic characteristics of peasant family-households it is methodologically usefully to divide them into discrete groups. In Chapter One it was argued that classical and neo-classical analysis of the dynamics of

agrarian structural change fail to take into adequate account the effect of social phenomena surrounding property and labour relations. It is therefore proposed to analyze the economic characteristics of peasant family-households by utilizing the methodological approach of marxian analysis. At its most straightforward this means dividing peasant family-households into class groupings reflective of the process of peasant class differentiation. Classes can be defined, in classical marxist fashion, by their relationship to the principal means of production. This in turn defines the relationships under which surplus labour is appropriated from the direct producers.

It is clear from Chapter Two that the size of farm holding does not give class status. This is because within farm size groupings there can be variations in the asset base, purpose and the method of cultivation. Farms grouped by average size completely obscure these differences. As Lenin argued,

> in classifying the peasants according to allotment, we lump together the poor peasant who leases out land and the rich peasant who rents or buys land; the poor peasant who abandons the land and the rich peasant who "gathers" land; the poor peasant who runs his most wretched farm with an insignificant number of animals and the rich peasant who owns many animals, fertilizes his soil, introduces improvements, etc., etc. In other words, we lump together the rural proletarian and the members of the rural bourgeoisie. The "averages" thus obtained obscure the differentiation, and are therefore purely fictitious (Lenin [1964]: 104).

In rejecting farm size as the basis of an operational analy-

sis, the alternative is clearly that which was proposed by both Kautsky and Lenin: economic strength, where farm size is just one factor that effects the scale of production pursued by the farm. Other factors include area cropped, the amount of rented-in land, the number of animals, availability of water, quality of soil, quality of seeds and fertilizers, degree of mechanization and availability and use of labour.

As argued in Chapter Two, peasant class differentiation occurs under the compulsion of accumulation, a process which promotes the extraction of surplus by becoming a constraint upon individual production and consumption decisions. The larger the scale of the farm the greater will be the capacity to pursue agrarian accumulation. This is because the larger the scale of production the greater will be the absolute size of the generated surplus, which in turn increases the capacity to invest. Investment will not only further intensify production and increase the surplus generated; it should also over time lead to a further expansion in the scale of production.

Average size groupings will thus hide the fact that farms of differing scales and investment levels pursue different pur-poses: small-scale farms produce to survive, whereas large-scale farms produce for the purpose of profit. This latter group has a specific relationship with the means of produc-

tion: having substantial productive assets, it employs

labour-power in order to extract surplus labour for the

purpose of accumulation. It is thus the case that

> it is precisely the position within the system of produc-
> tion relations which is crucial both in determining the
> object of production for the household as well as the
> constraints within which it operates (Patnaik [1987]:
> 201).

In other words, it is the class status of each family-house-

hold which will specify production objectives, resource con-

straints, and the type of efficiency pursued.

2. Patnaik's labour-exploitation criterion

Surplus can be extracted by wages, rents, usury, taxes and the

terms of trade. Surplus appropriation defines the position of

a family-household within a set of production relations, and

hence its class. Lenin provided three clear indices which

permit an assessment of the class status of peasant family-

households. The first index is the extent of possession of

land and other means of production, to be tempered by the

knowledge that ownership and tenancy of land are not

coterminous with class. The second index is the basis of

production: the extent of employment of non-family-household

labour relative to family-household labour on land operated

indicates whether or not the family-household is exploitative.

Two forms of work indicate that the family-household is being

exploited: family-household labour is hired-out; or land is

hired-in to cultivate and paid for in rent of some kind. The third index used by Lenin is the ability of a farm to generate a surplus capable of satisfying consumption requirements, depreciation and investment. These indices do not substantially differ from those proposed by Mao Zedong, although Mao allows for reciprocal labour transfers within and between family-households.

Multiple indicators are needed to capture class status because of the contradictions of agrarian class formation. As noted in Chapter Two, Kritsman argued that peasant family-households pursue a range of reproductive strategies. As agrarian class formation penetrates down to the level of the concrete family-household, the emerging dominant patterns of surplus appropriation may intersect the previous reproductive strategy pursued. The family-household becomes pulled between a previous reproductive strategy and a new reproductive strategy. The effect on the family-household is that it finds itself in a contradictory class location (see Kritsman [1984]).

Even the clarity that might be expected from theory at either pole of peasant family-households is rarely observed in practice. Theory would lead to the expectation that larger-scale holdings better utilize machinery and labour in their

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division of labour, that they consolidate fragmented holdings, and to some extent separate from the village, all in pursuit of efficiency. Other aspects of large-scale farms are however less obvious: that they may often rent-in land in large quantities, to increase their sown area; that they may be substantially indebted, but with debt of a qualitatively different type than that held by small-scale farms, obtained from organized financial institutions for the purpose of productive investment as opposed to consumption; that they may diversify away from agricultural activity by pursuing non-agricultural activities much more extensively than that which could possibly be carried out by small-scale farms; that they may be moneylenders to small-scale farms; or that larger-scale family-households may have larger families in order to utilize access to education as a means of improving class position in the long run.

Similarly, it would not be surprising if the notional "efficiency" of smaller-scale farms was the result of longer hours, reduced consumption, and the intensification of applied labour. Nonetheless, small-scale producers may have some less obvious characteristics: they may be more fully involved in market transactions, buying and selling in proportionally greater quantities even if consumption is actually lower; and they may spend larger proportions of their budgets on consump-

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tion goods, even if total consumption is lower. It is not obvious that a basic form of dependence of the smaller-scale producers may be the rental of capital stock; and it is certainly not obvious that the poor may switch cropping patterns to cash crops in order to meet debt obligations and consumption needs. It must finally be noted that if the polar cases are much more complex than might first be supposed, the peasant family-households in between these cases are all the more complex, with the possibility of a family-household being both exploiter and exploited.

Patnaik accepts that Lenin's three indices can capture the complexities of class status, but believes that the basis of production, that is to say whether a family-household is exploiting or being exploited, will correlate with the possession of productive assets and the generation of surplus. This allows Patnaik to examine in more detail the basis of exploitation. Patnaik argues that in many peasant economies undergoing the transition to capitalism, wage labour and land rent are the main avenues by which surplus is appropriated. Further, both forms of surplus appropriation facilitate the expenditure of labour, whether it be family-household or non-family-household. Both forms of surplus appropriation should therefore be able to be expressed in terms of the labour expenditure that is facilitated. Moreover, the labour

expenditure that is facilitated must by definition have an affect upon the overall composition of family-household labour expenditure between employed and self-employed labour. Patnaik therefore proposes that labour employment relative to self-employment be used as a preliminary method of classifying a given sample of peasant family-households into class categories which reflect economic strength. Further, in that it reflects the basis of production labour employment relative to self-employment should correlate with possession of the means of production and surplus generation. Patnaik thus focuses upon the extent of employment of others or by others relative to self-employment as a means of uncovering the primary channel by which surplus is extracted.

The first problem then becomes one of quantification. Prices and quantities are the common yardstick of economics; but in poor countries such as Pakistan not all goods are priced, and those that are very often do not reflect principles of marginalism. The orthodox response is to shadow price; yet this is problematic. With markets incomplete shadow pricing becomes an exercise of little practical use. An alternative method of quantification is therefore required.

As labour expenditure is the basis of surplus extraction, an intuitive solution to the quantification problem is to focus

on physical quantities of labour inputs. This is an approach consistent with the marxian paradigm. It is also of general applicability if some assumptions are made. The first is to assume that labour is relatively homogenous and substitutable. This implies both similar skill levels and similar intensity of effort. This is not an unrealistic assumption in the agrarian sector of a poor country such as Pakistan. It can then be assumed that labour is rationally allocated: agents will seek to minimize labour inputs given constraints. Efficiency is thus brought into the system. Total labour hours expended can then be expressed in additive physical units comprising the volume of labour inputs. Total time worked therefore becomes a method of measure. Two identities can also be made explicit. First, total family-household labour hours expended in agricultural work in the household and non-household economy will be equal to the sum of total labour hours expended in agricultural work in the household and non-household economy by all members of the family-household. Second, the rate of exploitation of the family-household will be equal to the sum of the rates of exploitation of the family-household members divided by the number of family-household members.

As mentioned above, exploitation in the marxian sense occurs through land, labour and capital markets. As in any other

setting, marxists would define the rate of exploitation in the agrarian sector of a poor country as

$$e = s/v \qquad\qquad (1)$$

where (e) is the rate of exploitation, (s) is surplus labour, (v) is socially-necessary labour, and where

$$s + v = n \qquad\qquad (2)$$

(n) being total labour hours expended in agricultural work in the household and non-household economy. Given a common working day assume a standard, undefined rate of exploitation. If labour is homogenous, even this assumption is not wildly unrealistic. It will however be dropped as the methodology is developed. It will then be the case that (s) and (v) will be fixed.

These assumptions allow the use of Patnaik's labour-exploitation criterion. The labour-exploitation criterion is a quantitative measure of a qualitative phenomena, peasant class differentiation, which measures employment of others or by others relative to self-employment. Hiring-in labour is a direct form of labour employment. A fraction, (s), of the total labour expended is appropriated by the employer as surplus. Leasing-out land for rent is an indirect form of labour employment. A fraction, (s), of the total labour expended on the leased-out land is appropriated by the land's owner as a surplus which takes the form of rent. Leased-out

land can therefore be dealt with in terms of labour expenditure. With a given time period and with the owned and leased-in area of the holding that is actually cultivated defined as the operational holding, the mathematics of the labour-exploitation criterion are

$$E = X/F \qquad (3)$$

$$= \frac{(H_i - H_o) + (L_o - L_i)}{F} \qquad (3a)$$

where (E) is the labour-exploitation criteria; (H_i) is the total labour days that are hired-in and worked on the operational holding of the family-household in a given time period; (H_o) is the total family-household labour days that are hired-out to non-family-household members to work off the family-household's operational holding for a given time period; (L_i) is the total labour days worked by both family-household and hired-in labour on the leased-in portion of the operational holding in a given time period; (L_o) is the total labour days that are worked by labour on land that has been leased-out by the family-household in a given time period; and (F) is the total labour days that are worked by family-household members in agricultural work on the operational holding of the family-household in a given time period.

For all five statistics contained within the labour exploitation criterion there will be a rate of surplus labour per unit

of labour expended. Knowledge of the surplus labour per unit
of labour and hence the rate of exploitation is however not
needed. In the equation, the rate of surplus labour per unit
of labour expended cancels out of both the numerator and the
denominator. The labour-exploitation criterion therefore
gives the ratio of net surplus labour appropriated through
hiring plus leasing to surplus labour in self-employment. The
remaining assumptions--labour homogeneity and efficient labour
allocation--are not unrealistic in a poor country.

With adequate data, the labour-exploitation criterion can be
used to classify peasant family-households into agrarian
classes and thus permit an evaluation of the economic char-
acteristics of both peasant family-households and peasant
classes. This classification will be examined below. It must
however be emphasized that the labour-exploitation criterion
is only a preliminary classifactory measure and as such should
be treated with caution. While it does capture a key aspect
of the relations of production, the labour-exploitation
criterion is only a method of approximating class status. As
such, it cannot be expected to generate completely consistent
data sets capturing all aspects of class status. The labour-
exploitation criterion as formulated above thus does not
explicitly deal with taxes, terms of trade, usury, or capital
stock hiring as forms of surplus appropriation. These

omissions can be justified as follows: firstly, taxes are a portion of the extracted surplus and as such are partially included in the criterion. Once family-households have been classified correlating usury and capital stock hiring to class position would also implicitly account for some taxes. It can also be noted that taxation of agriculture in many countries is quite low. Secondly, the fact that the terms of trade are price movements means that they cannot be accounted for directly in the labour-exploitation criterion. Seasonal patterns of buying and selling could however be documented and then correlated with the classification. While this second-best solution does not reveal the magnitude of the surplus extraction, such a magnitude is in principle possible to obtain through daily family-household budget surveys. As for usury, Patnaik has dealt with this through an extension of the labour-exploitation criterion. Such an extension however re-quires knowledge of the surplus labour per unit of labour. This would not be an insurmountable constraint if daily family-household budget surveys were used. A second-best solution could be to correlate usurious flows to the classification of family-households. Finally, capital stock rental could be integrated into the labour-exploitation crite-rion if, to the assumption of homogenous labour, is added that of uniform technology. Such an assumption however seems ex-tremely unrealistic in the study of a agrarian structure

undergoing processes of class differentiation. It would however be possible to correlate capital stock ownership and leasing to the classified family-households, in order to determine whether any systematic relations are evident.

It should be stressed that despite these difficulties, all of which are in practice resolvable, if the main channels of surplus extraction are wage labour and land leasing then the preliminary classification will capture, in a reductionist fashion, the bare contours of the agrarian class structure and permit an evaluation of the economic characteristics of peasant family-households and peasant classes.

The possible values associated with the labour-exploitation criterion range from negative infinity to positive infinity. Patnaik is able to derive a plausible six-class differentiation schema applicable to the agrarian sector of parts of South Asia. This schema is given in Chart 1. These classes correspond in general to the schemas advanced by both classical and analytical marxists (see Lenin [1964]; Mao [1967]; Bardhan [1982]; Roemer [1988]). The labour-exploitation criterion does not however deal with the intrahousehold distribution of labour expenditure as witnessed in the sexual division of labour within the family-household. It is to this that the chapter now turns.

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Chart 1:   Peasant classes: a typology

Class	E=X/F	Reason	Primary characteristic
Landlord	E -> ∞	F=0, X>0 & large	No manual self-employment and large hiring-in of labour.
Rich peasant	E≥1	F>0, X>0, X≥F	Employ others at least as much as self-employed.
Middle peasant	1>E>0	F>0, X>0, X<F	Employ others less than self-employed.
Small peasant	0≥E>-1	F>0, X≤0, |X|<F	Others not employed; work for others less than self-employment.
Poor peasant	E≤-1	F>0, X<0, |X|≥F	Work for others more than self-employed.
Landless labourer	E ->-∞	F=0, X<0 & large	Work only for others.

Notes: (E) is the ratio of net surplus labour appropriated through labour hiring and land leasing to surplus labour in self-employment, where (X) is net labour hired-in through land and labour markets and (F) is agricultural self-employment.

Source: Patnaik [1987].
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3.   Folbre and the distribution of exploitation

Gender subordination dynamically interacts with capitalism.

From a material perspective exploitation is bound up with the

extraction of surplus in production through a redistribution

of the labour expenditure of the direct producer. Exploitation

in its marxist sense need not however bear upon all members of the family-household equally. As was argued in Chapter Three, a central facet of the subordination of women within the family-household is the control of female labour by males. Such control could be argued to be the material basis of gender oppression.

Through the work of Folbre (see Folbre [1982]) it is apparent that if a family-household member is exploited in the labour market then family-household socially-necessary labour time (v) will be less than the total number of hours worked (t) where

$$t = s + v \qquad\qquad (4)$$

While (s) remains surplus labour, (v) is now taken to include domestic work and thus (n) does not equal (t). If (t) is greater than (v) then the assertion that the family-household as a whole is exploited depends crucially upon the allocation of labour amongst the members of the family-household.

Letting (f), (m) and (c) stand for females, males and children, the total number of hours worked (t) can be alternatively defined as

$$t = T_f + T_m + T_c \qquad\qquad (5)$$

where the upper-case letters represent the total labour expenditure of the sex and age groups in the family-household.

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Let (V) be the average socially-necessary labour time of each sex and age group in the family-household. In an egalitarian family-household the ratio of total labour expenditure (T) to necessary labour (V) by sex and age should be equal. In other words,

$$T_f/V_f \ = \ T_m/V_m \ = \ T_c/V_c \tag{6}$$

If the equality holds, any exploitation is shared equally amongst the family-household. If the equality does not hold, a redistribution of labour expenditure and indeed of exploitation is occurring within the family-household. In the words of Folbre, "exploitation comes home" (Folbre [1982]: 322). If for example

$$T_f/V_f \ > \ T_m/V_m \tag{7}$$

and the male was exploited in the labour market the burden of exploitation would be redistributed within the family-household from the male to the female. If such were the case not all members of the family-household would receive a share of net household product commensurate with their individual contribution to net household product. A redistribution would be occurring; and indeed this follows from the argument in Chapter Three that work in the household economy is subject to unequal exchange. Those who are exploited in the labour market are serviced by other members of the family-household. As was argued in Chapter Three, the provision of services involves an expenditure of labour which is not valorized on

the labour market and which is subject to a rate of return below opportunity costs. Such services lower the value of the labour-power that is serviced and hence raise the rate of exploitation.

Although not addressed by either Folbre or Patnaik, the redistribution of labour within the family-household can be made entirely consistent with the labour-exploitation criterion by examining the extent to which labour expenditure is shared equally within the family-household unit of peasant classes. Recall the previously-stated assumptions and method: labour is relatively homogenous and substitutable; it is rationally allocated through a minimization of labour inputs; and that total labour hours expended can be expressed in additive physical units. The labour-exploitation criterion examines total labour hours expended per family-household in agricultural work for the household and non-household economy. In principle, any adequate data coverage could easily be extended to include total labour hours expended on domestic labour in the household economy. The primarily self-employed peasantry--archetypically, the small peasants of Chart 1--can be used to construct a referent. For the primarily self-employed small peasantry, by definition the total labour hours expended (T) should approximately equal the necessary labour time (V) needed for the reproduction of the members of the

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family-household. This can then become the spatially-specific referent of socially necessary labour time.

In order to assess whether or not a redistribution of labour expenditure is occurring within the family-households of the different rural classes, calculations are needed. If it is assumed for the moment that for the small peasantry total labour time approximates necessary labour, then the ratio of all male labour expended to all female labour expended should approximate unity if all work is equally shared. In alternative language,

$$T_f/T_m = 1 \qquad (8)$$

If it does not, a redistribution of labour is occurring and the flow of that redistribution can be assessed. For the other rural strata, the average labour time expended by males, females and children in the small peasant family-households can be taken to be a spatially-specific approximation of necessary labour time by sex and age. In an egalitarian rural family-household the ratio of total labour expenditure by sex and age to small peasant labour expenditure by sex and age should be equal across the sex and age groups. In other words, for non-small peasant family-households

$$T_f/V^*_f = T_m/V^*_m = T_c/V^*_c \qquad (9)$$

where (V^*) is the spatially-specific average socially neces-sary labour time and is equal to the average total labour

expenditure of the age and sex groups within the small peasantry. If the equality holds, any exploitation is shared equally amongst the family-household. If the equality does not hold, a redistribution of labour is occurring. The inequalities would be quantitative indicators of qualitative redistribution.

It might be argued that domestic labour should be integrated into the labour-exploitation criterion rather than be evaluated using the Folbre method. However, the effect of domestic labour on class structure need not be as great as might be imagined. This is because servicing labour would have to be included in both the numerator and the denominator of the labour-exploitation criterion. The argument proposed is not that domestic labour on both sides of the ratio somehow mathematically negates the other; rather, it is that the inclusion of domestic labour on both sides of the ratio may not effect the pattern of peasant class differentiation. This is not exactly unsurprising in that the labour-exploitation criterion is evaluated not in terms of individuals but in terms of family-households.

Just as with the labour-exploitation criterion however caution must be practised when using this methodology. For a start, it is imprecise and an exact equality in the intrahousehold

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allocation of male, female and child labour should not be expected. As a result the significance that should be given to the quantitative indicator should be that of a "signpost" of qualitative flows. Inferences concerning cross-class differences other than differences in signposted flows of labour expenditure should be carefully made. It must also be stressed that given the spatial specificity of the results generalized conclusions must be very carefully drawn. Finally, it must be mentioned that if an equality of total labour expenditure to necessary labour expenditure by sex is found, this does not necessarily mean that oppression is not occurring. It rather means that the oppression has, strictly speaking, no material base in labour expenditure. It may have a base in terms of economic exclusion or lack of access to consumption goods. Such gender-based alienation will still be rooted in material conditions but premised upon a specific ideological construction, as discussed in Chapter Three. Given these cautions however it is nonetheless clear that this method does enable a first approximation of the material basis of gender oppression to be made.

4. Conclusion

This chapter has adopted a method which uses the hiring-in or out of labour relative to self-employment as a means of obtaining a preliminary estimate of agrarian classes. Such an

estimate could be used to ascertain the economic charac-
teristics of peasant family-households. The chapter has also
demonstrated how an assessment of intrahousehold labour
allocation permits an evaluation of whether or not an equit-
able sexual division of labour is present within a family-
household. The two methods are complementary even though they
were developed separately. Chapters Six and Nine will provide
some refinements to this methodology. The data upon which the
Patnaik-Folbre method is to be used can now be introduced.

Before moving to that introduction it is important to be clear
that rural dominant and ascendent classes may be very poor by
international standards. They may be economically relatively
insecure when compared to advanced capitalist countries, given
their dependence on weather and world markets. Such an aspect
does not deny their dominant or ascendent status, nor does it
deny their dynamism. This dominance is most clearly evident
in their ability to push for favourable changes from the state
over procurement prices and input subsidies through what Marx
would have termed "class-for-itself" action, that is to say
concerted and conscious class struggle.

CHAPTER FIVE:

THE SCARP MARDAN EVALUATION PROJECT

1. Purpose and background

In order to assess the utility of the marxian-rooted Patnaik-Folbre method in ascertaining both the economic characteristics of peasant classes and the family-households within those classes, this study will use data culled from the SCARP Mardan Baseline Evaluation (Freedman [1986a]). This chapter outlines the purpose, method and findings of that study.

It has been estimated that some 7 million hectares of arable land in Pakistan is vulnerable to waterlogging and salinity. In this, Pakistan shares a problem found in many poor countries. High water tables and salinity puts stress on water delivery systems, soil capacities, and ultimately on agricultural production itself. The Salinity Control and Reclamation Project (SCARP) of Mardan is one of a number of projects designed to obviate such stresses. Located in the Peshawar and Mardan Districts of the North-West Frontier Province of Pakistan, SCARP Mardan consists of three project inputs. The first project input is aimed at improving the

irrigation system by widening the major delivery system, the Lower Swat Canal, and its ten smaller distributaries. This is designed to affect 123,600 acres. The second project input is to install a drainage system, thereby lowering the water table and reducing surface deposits of salt. The result is land reclamation. This is designed to affect 73,000 acres. The third project input focuses on improving agricultural extension services by setting up a training and visit system. This is designed to affect slightly more than 1,000,000 acres. The agricultural extension reform commenced in 1981, while the engineering work commenced in 1984.

SCARP Mardan is funded by the World Bank through the International Development Association, the Canadian International Development Agency (CIDA), and the Government of Pakistan. The implementation of the project is being carried out by the Water and Power Development Authority of the Pakistani Government and by the Government of the North-West Frontier Province.

In the design stage of the project CIDA undertook the funding of an additional project component: a socio-economic evaluation of the impact of SCARP Mardan. The evaluation was designed to be carried out in two phases. A baseline study would establish a socio-economic profile of the project area

prior to any impact. A post-project study would establish a socio-economic profile of the project area following the completion of the project. The socio-economic evaluation was commissioned because it was recognised by CIDA staff based in Pakistan that an engineering exercise such as SCARP Mardan was

> only a first step toward the ultimate objective. Social and economic circumstances condition the extent to which farmers' well-being improves as a result of infrastructural improvements (Freedman and Wai [1986]: 4).

The evaluation was designed to address three main questions. Firstly, the success of SCARP Mardan in improving crop yields. Secondly, the extent to which improved crop yields translated into increased incomes for farmers of differing asset levels. Thirdly, the ability of engineering projects such as SCARP Mardan to address the root causes of the weak performance of the Pakistani agricultural sector since the early 1970s.

A team of social scientists based at the University of Western Ontario in London, Canada were contracted to carry out the evaluation in collaboration with members of the Pakistan Academy for Rural Development. The baseline evaluation was started in late 1984 and continued until early 1986. The post-project evaluation is to be conducted in the mid-1990s.

2. Methodology

The evaluation required data that would permit comparison

between the baseline and post-project periods. From the beginning the evaluation team recognized that narrow indicators such as income, while of importance, would be inadequate to assess performance. They recognized that indicators would be effected by the wider socio-economic environment as well as by the impact of SCARP Mardan. The evaluation team therefore sought to collect data on a wider set of indicators.

In doing so, the evaluation team had an implicit theory: namely, that the variables under study were interrelated and therefore could not be studied in isolation. Such an appreciation is sadly lacking in many project evaluations. In hypothesizing a reciprocal interrelationship between the SCARP Mardan project, yields, income and the socio-economic environment the team was taking a systems-based approach to the evaluation.

In a systems-based approach, variables are identified and clustered into discrete groups within which it is assumed that the variables affect each other. It was assumed by the evaluation team that the project benefits in general and the income changes in particular would have different effects on different aspects of the social economy. The clustering of the variables would permit the differential impact of the

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changes to be more adequately assessed.

The evaluation team identified five clusters of variables for the SCARP Mardan evaluation. The first of these were quality of life characteristics and included the dependency ratio, fertility rates, morbidity rates, infant mortality rates, education levels, employment rates and income levels. The team was thus aware that "project benefits inevitably confront and alter income through the inhibiting and changing conditions that these quality of life determinants describe" (Freedman and Wai [1986]: 6). The second cluster focused on female participation and identified key variables as being age at marriage, type of marriage, time use, literacy rates, participation in decision making, and income level. The team argued that "project impacts must confront the conventions and ideals that define the Pakhtun family in creating, through rising incomes, new roles for Pakhtun women" (Freedman and Wai [1986]: 6). The third cluster of variables focused on the farm and household economy. Variables within this category included land size, tenure patterns, expenditure patterns, income sources and income levels. The evaluation team stated that

> farmers' ability to benefit from project improvements
> relies heavily on the options that are possible within
> types of household economies, types that are determined
> largely by how a farmer constructs a livelihood out of a
> set of these interpenetrating considerations (Freedman
> and Wai [1986]: 6).

The fourth cluster set consisted of variables which interacted with markets. These included prices of farm inputs, prices of farm outputs, local market structures, non-local market structures, and price elasticities by income levels. The team believed that

> project impacts encounter incomes through different market structures. The extent to which households benefit...will vary with their response to the conditions and changes within these market structures (Freedman and Wai [1986]: 6).

The last cluster of variables centred on the village structure and included the distribution of land, the distribution of literacy, the distribution of agricultural information, village segmentation and the distribution of income. The evaluation team argued that "differential access to project benefits" might result from "relations of dominance and subordination within (village) factions...(as a) result...(of) economic and social stratification among village households" (Freedman and Wai [1986]: 8). It is thus apparent that the evaluation team set out to capture socio-economic indicators that would be broad enough to assess the interrelationship between variables and the resulting affect on growth and change.

The data requirements dictated a flexibility in data gathering techniques; nevertheless, surveys were able to capture the bulk of the evaluation team's requirements. Data gathering

for the baseline evaluation consisted of fifteen separate surveys lasting from between one to nine months and conducted over a fourteen month period. It was recognized that SCARP Mardan would impact upon individuals, family-households and villages in ways which might not be mutually consistent. Surveys were therefore designed to capture the impact of the project at different levels. The surveys consisted of: a preliminary family-household census; family-household membership; plot and crop rotation; capital and livestock endowments; cultivation operations over the previous month; labour utilization over the previous month; family-household transactions over the previous month; time use by family-household members over the previous day; kharif (summer)-season land parcel reinventory; female specific information; training and visit agricultural extension system evaluation; village histories, leadership patterns and conflict; rabi (winter)-season land parcel reinventory; land ownership verification; and village faction composition. The evaluation team recognized that some of the surveys had major data inaccuracies and in these cases the survey was reworked and carried out again.

In order to select villages for the survey, the project core area was divided into a grid consisting of a fairly uniform number of blocks.   The evaluation team constructed six

different combinations of salinity and waterlogging within the core area and then identified each block according to the degree of salinity and waterlogging within its area. From each of the six possible combinations one block was randomly selected, and from within each of these six blocks one village was selected. Two control villages from outside the project area were also selected for surveying. The surveys were thus carried out in eight villages consisting of 1,686 family-households.

The evaluation team was ambitious in its attempted survey coverage of the villages. Of the 1,468 family-households that consented to take part in the evaluation, the team sought to survey 50 per cent. Of these 734 family-households, 12.9 per cent dropped out during the course of the surveying. The SCARP Mardan baseline evaluation thus has a database generated from a total sample of 639 family-households comprising 5,564 people, 52.7 per cent of whom are male and 47.3 per cent of whom are female. Of these family-households, 318 gave female-specific information. The result of the detailed and repeated surveys on a sample of such a size is a database of rare depth and quality.

3. Findings

It is not proposed to recapitulate the detailed findings of

the evaluation team as this is done elsewhere by persons more qualified (see Freedman [1986a]). It is however useful for the purposes of this study to summarize briefly the findings of the evaluation team. These can serve as a referent to the findings generated by the utilization of the Patnaik-Folbre method. It should be noted that this summary does not cover the many hypotheses advanced by the evaluation team regarding the probable effects of the SCARP Mardan project.

3.i) The farm economy

In 1985 the predominant economic activity in the project area was farming, broadly defined to include land cultivation and animal husbandry. Of the family-households sampled, some 54 per cent owned land while 46 per cent were landless. Of the landless, 75 per cent pursued agricultural work. It is thus the case that the bulk of the family-households sampled engaged in agricultural work.

The distribution of land ownership was found to be unequal. The Gini coefficient of .56 reflected the fact that the top 20 per cent of landowning family-households held nearly 67 per cent of the owned area while the bottom 20 per cent of the landowning family-households held only 2 per cent of the owned area. The average size of the owners's holding in the project area was found to be small. Given such a finding, it is not

surprising that many owners rented in land. Indeed, overall 70 per cent of family-households rented in land amounting to 27 per cent of the total farm area. Some 22 per cent of landowners rented out land amounting to 33 per cent of the owned area. The concentration of land was also found to be unequal in terms of operational holdings. The top 10 per cent of operational holdings covered some 34 per cent of the operated area, while the bottom 30 per cent of operational holdings covered a mere 6 per cent of the operated area. The average size of operational holding was 6.2 acres.

The evaluation team classified the operational holdings into three types of tenures: the owner farm, the owner-cum-tenant farm, and the tenant farm. Tenant farms were the largest single category of farms, while the very smallest farms tended to be cultivated by owners. Tenancy arrangements varied, with sharecropping constituting the norm. For sharecroppers in the project area input costs were shared between landlord and tenant in exchange for an even split of crop output. Given such a variety of tenures, it is not surprising that operational holdings tended to be highly fragmented.

In terms of non-land assets, 80 per cent of family-households owned 7 heads of poultry and two-thirds of family-households owned 2 milk animals. Less than 50 per cent of family-

households owned draft animals. Twenty-five per cent of family-households owned goats and sheep. As farm size increased the ownership of livestock tended to rise. Only 5 per cent of family-households owned a tractor, and even fewer owned threshers, power pumps, sprayers and tractor-drawn implements. The proportion of family-households owning modern machinery and implements were found to rise as farm size increased.

The evaluation team examined at length crop inputs. While most farms had access to some irrigation, no systematic bias was found between water location and farm size or tenure. Similarly, while most farms experienced some waterlogging and salinity, no systematic bias was found in the quality of soil and farm size or tenure. Fertilizers were used by some 60 per cent of farms, but no systematic differences were found between fertilizer expenditure and farm size. Pesticide use in all sample family-households was negligible. A high proportion of farms at some point used either a tractor, animals or some combination thereof in the production of their crops.

In terms of labour inputs, 90 per cent of cultivating family-households used family-household labour. This tended to decline as farm size increased. The bulk of the family-

household labour used in cultivation was male; on average, only 4.5 per cent of females participated in crop production and the bulk of this time was spent in food preparation. Less than 20 per cent of female agricultural activity was actually spent in the fields. If however agricultural activities were defined so as to include animal husbandry, female contributions increased in that some 20 per cent of the average female day was spent in the care of livestock. The bulk of the average 62 hour work week performed by women consisted of wood and water collection, cleaning and cooking. In general, as incomes rose female participation in economic activities declined and indeed the work day devoted to non-child care domestic tasks also declined as the labour of servants replaced that of female family-household members. Time devoted to child care however increased as income increased.

Small numbers of family-households employed outside labour, primarily at harvest time. The average input of hired-in labour per acre was quite small. Hired-in labour did however rise as farm size increased. Much more common than labour hiring was reciprocal labour exchanges. Exchange labour was used by between 25 and 33 per cent of farms. No correlation was found however between farm size and use of exchange labour.

Farms in the project area tended to grow a variety of crops. In order of importance, sugarcane, wheat and corn were the main cash crops, while fodder crops were also important. Sugarcane and fodder cultivation rose in relative importance as farm size increased, while wheat and corn cultivation was proportionately less important for the very large farms when compared to the very small farms. Large farms also cultivated rice. Two per cent of the cropped area was devoted to tobacco, distributed evenly amongst farm sizes except for the very small where little tobacco was grown. Taken together, these crops constituted 85 per cent of the cropped area and 95 per cent of the cropped area of small farms. Farming was performed in two seasons, rabi and kharif. Cropping intensities were high, and intercropping was common.

In terms of crop yields, farm production of wheat and sugar-cane was consistent with regional and national yields. Average per acre yields of wheat amounted to 722 kilograms, while that of sugarcane amounted to 13,748 kilograms. Yields of corn were low compared to the national average; the evaluation team argued that this was due to the underreporting of joint production. Yields of tobacco were lower than the national average for reasons unknown. Average per acre yields of corn were 180 kilograms, while that of tobacco were 331 kilograms. The team notes with interest that "the reported

yield levels do not seem to vary with the size of the farm"
(Khan [1986a]: 124).

Some 41 per cent of crop and livestock products in the project
area were self-consumed, while 49 per cent were exchanged for
cash. Only 8 per cent are used as payments to labour. This
was consistent with the finding that three-quarters of all
transactions took place between family-households and that
two-thirds of all payments were made in cash.

Among different tenurial types, no difference was observed in
the proportion of output paid to labour. Alternatively, while
landowning operators and landowning tenants both used about 46
per cent of output each for self-consumption and market sales,
landless tenants used only 33 per cent of output for self-
consumption. Some 60 per cent of tenants' output was sold on
the market. This latter figure was due to the form of
sharecropping contract, whereby rental payments could appear
as marketed output.

Some 56 per cent of total family-household income was derived
from farming and farming-related activities; 20 per cent was
derived from the liquidation of predominantly farm assets; and
some 10 per cent of income was derived from land rental,
machine services and remittances. Only 5 per cent of the

income in the project area was derived from non-farm income. In general, then, family-households derived their income from multiple sources, although the bulk of it was farm related.

Average gross farm incomes in the project area amounted to Rs.21,758 per family-household. Excluding costs of production, net farm incomes amounted to Rs.10,917 per family-household. At 1985 exchange rates that amounted to U.S.$685.31 per family-household. On a per acre basis, the average gross income was Rs. 3,509, while the net income was Rs.1,761. Gross and net incomes per family-household rose with farm size but fell on a per acre basis. With yields per acre being the same for different farm sizes, this finding was explained by reference to tenurial status: "owner farms have the highest level of farm income per household and per acre" (Khan [1986a]: 130), the income difference between owner farms and tenant farms was quite large and "the net farm income per acre on small farms--particularly those operated by owners--is significantly higher than on medium and large farms" (Khan [1986a]: 130). In terms of equity, the Gini coefficient for income in the project area was .35. Although the difference between this and the Gini coefficient for landownership was not explained, it would appear consistent with the thrust of the evaluation team's findings to assert that this too was the result of tenurial status and the fact

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that the smaller owner farms generated higher incomes per acre. Indeed, two-thirds of income was received by family-households owning some land. It should be noted however that the top 20 per cent of income earners commanded 40 per cent of total income, while the bottom 27 per cent of income earners commanded 10 per cent of total income.

In general, participation in farming declined as income increased. Sixty-six per cent of low income family-households engaged primarily in farming, while only 44 per cent of high income family-households engaged primarily in farming. Overall economic participation amongst males declined as income increased, reflecting increased schooling amongst the higher income family-households. As noted, for females economic participation was very low.

The average family-household earnt a little more than it spent. This average conceals the fact however that low income family-households were by and large unable to cover their monthly expenses from their income. In terms of savings, landowning operators saved some 5 per cent of their income, while landless tenants saved at best between one and two per cent of their income.

Summing up, it appears on the basis of the SCARP Mardan

evaluation that "the landowning operators are doing far better than any other group of households in the sample. They are followed closely by those who own part and rent part of the landholding they operate" (Khan [1986a]: 97).

3.ii) The social context

The evaluation team thus posited economic stratification on the basis of tenurial status and reflected in income levels. This stratification appeared to carry over into the wider social setting. The dependency ratio of 101.8 indicated the burden that the producing population had to bear. It is important to note however that the dependency ratio was highest amongst low income family-households and lowest amongst high income family-households. Within the low income family-households the child dependency ratio was especially high. At the same time, the sex ratio of 111.2 indicated the prevalence of males in the project area. It appeared that the high sex ratio was the result of high female age-specific mortality rates. The age and sex structure of the project area's population was thus young and male.

The crude birth rate for the project area was 42 per thousand. The fertility rate was highest amongst low income family-households. It then declined, only to rise again at high income levels. The evaluation team argues that

> as income goes up, utility derived from the children decreases, causing a decline in fertility. Further, as income rises, there is a shift from a desire for higher quantity to higher quality children. This can be seen by the fact that both literacy rates and level of education rise as income level rises. Once income rises to a sufficiently high level, households can afford... (to) have more children should they desire (Wai [1986]: 31).

The morbidity rate in the project area was 12.8 per cent. It declined as income rose. The infant mortality rate was 52 per thousand, and the whole population crude mortality rate was 12 per thousand. Both figures were less than the national averages, which in 1985 were 115 per thousand and 15 per thousand respectively (Pendse [1988]: 198). The evaluation team argued that taken together and disaggregating by income low income family-households had a higher mortality rate and a shorter life expectancy when compared to their high income counterparts.

The average literacy rate was 12.2 per cent. This compared to a national average of 15 per cent. Literacy was lowest amongst low income family-households, standing at 5.4 per cent. For the highest income family-households the literacy rate was 17.1 per cent. Some 78 per cent of men were illiterate and some 98 per cent of women were illiterate.

Income differentials did not seem to affect access to water or cooking fuel, but the team rightly points out that amongst high income family-households the collection of such

necessities would have been carried out by hired labour. Higher income family-households had a markedly greater access to public utilities such as electricity and they had greater levels of family-household assets such as radios, dinner sets, tape recorders, watches and the like. It was concluded then that "higher income households enjoy a higher quality of life than do their lower income counterparts" (Wai [1986]: 47).

Women seemed to have little and often no say in family-household decisions except for the purchase of daily needs. The evaluation team notes however that women in lower income family-households seemed to have greater influence than those in higher income family-households. This was not only due to their enlarged economic status at lower income levels; it was also a reflection of the fact that as income increased family-households were better able to allocate women to a culturally-defined seclusion which was seen by Pakhtun men to be a moral improvement. This ideal had some support from women them-selves, but this was by no means universal. While women were of the opinion that it was improper to work in the fields, a majority of women surveyed believed that women should be educated and almost half the respondents had reservations about always obeying their husband.

The project area is capable of supporting high levels of farm

production and the generation of agricultural surpluses. As a result, compared to other regions the villages of the Peshawar valley exhibit both more wealth and more poverty than other Pakhtun regions. It was argued by the evaluation team that economic stratification had affected processes of village segmentation. Historically, family-households subordinated themselves to other family-households to which they were related through kinship ties. While such subordination often had an underlying economic rationale kinship provided the foundation upon which it was built. The relationship between a dominant patron and a subordinate client was termed "faction" by the evaluation team. Factions formed the basis of village segmentation. Differences in access to productive resources has however recently compromised the use of kinship as the foundation of segmentation. As economic stratification has proceeded, dominant family-households have sought to expand their control over resources. To assist this, the village faction has been utilized for more overtly economic reasons and as a result has expanded beyond the realm of kinship. Such a use had led to insecurity for non-members of factions. To obviate such insecurity, by 1985 some two-thirds of the project area's family-households had joined factions for what were predominantly the non-kinship reason of economic security. In a situation where two-thirds of family-households had insufficient operational holdings to support

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themselves, they needed patrons to cushion the family-household against economic vulnerability. The evaluation team thus found non-aligned family-households to be rare. The resulting segmentation of the villages led to the emergence of two distinct economic groups within villages. These groups were primarily based upon the landholding structure and were linked to other disparities in the quality of life. The evaluation team thus saw the social context of production in terms of accentuated stratification and differential life chances rooted in unequal access to land.

4. The Pakhtun social ideal

In order to get a clearer understanding of the social processes at work in the SCARP Mardan project area, it is important to outline briefly a component of the ideology dominant in the region. This component is known as Pakhtun-wali, and refers to the code of behaviour deemed to be ideal amongst the Pakhtun. It is for this reason that Ahmed has referred to Pakhtunwali as the "Pakhtun ideal" (Ahmed [1980]; see also Ahmed [1986]).

While the Pakhtun ideal has both material and moral aspects, it is the dominance of the latter which renders it an ideological phenomena. Central to the Pakhtun social ideal are notions of respectability, reputation and honour, subjective

concepts which while constructed historically are recon-
structed within the family-household, the mosque and the other
social institutions of Pakhtun society. Family-households
must behave in a way that brings honour and respect to the
unit. Further, "Pakhtun households vie with other households
of a village for a good reputation" (Freedman [1986b]: 72).
Family-households cannot therefore take the social ideal for
granted; rather, they must both strive and be seen to strive
to achieve the ideal.

The material aspect of the social ideal has as its core the
drive to achieve wealth and increase property. The purpose
behind this drive is twofold. First, it enables the patri-
leneally-based patriarchal family-household to achieve a self-
reliant status, one that is both independent from the social
institutions of Pakhtun society and is an improvement in
economic welfare. A family-household that has both economic
wealth and social autonomy gains respect. Second, the
increased freedom to shape family-household activity that
comes from prosperity allows a stricter application of the
moral aspects of the social ideal.

While the material aspect of the social ideal can fit in well
with a market economy, two points should be noted. First,
non-Pakhtun concepts of law are not respected. This can make

Pakhtun acquisitiveness appear not to be subject to social sanction, which is not the case. Second, market processes can not only increase the independence of the family-household. They can also compromise the autonomy of the family-household by reducing the scope of its authority over a range of decisions without necessarily strengthening economic security. A tension can thus exist between the drive for wealth and the drive for independence.

The material aspect of the social ideal is not however an unbridled drive for accumulation. An important component of the drive for wealth is the consequent responsibilities it thrusts upon the family-household. A key responsibility that comes with wealth is that of hospitality. As Pakhtuns become wealthier, they must use their wealth to entertain more frequently and to better accommodate guests; wealth must therefore be demonstrated if the prestige associated with it is to accrue to the family-household. The use of wealth to secure independence, provide hospitality and apply the social ideal brings honour to a family-household. The material aspect of the social ideal is thus heavily integrated into the ideological norms which provide the substantive content of the concept.

The ideological core of the social ideal focuses on the

socially-sanctioned behaviour which maintains the respect accruing to a family-household. Central to this is the comportment of the patriarch and the family-household. Conduct is only proper if it precludes shame falling upon the family-household. If a family-household is shamed, the members of the family-household must take action which removes the shame. For example, if a family-household is insulted the shame of the insult must be removed by revenge.

Women both reflect and affect the status of the patriarch within Pakhtun society. They must therefore follow behaviour which upholds the socially-determined honour of the patriarch. In that the social cluster which determines the honour of the patriarch is composed of other patriarchs, ultimately honour can only be maintained through a deferral of females to males. This means that intrahousehold authority must be the domain of men, or must at least give the impression of being the domain of men.

In order to both maintain their authority and reduce their vulnerability to shameful acts Pakhtun males strictly control both the circulation of women and their sexual activity. In this, the social ideal fits into Islamic ideals. Women are all but excluded from the non-household economy and seclusion within the walls of the family-household dwelling is rigidly

observed.   If women venture beyond the family-household dwelling, seclusion can be maintained through the use of clothing which completely covers all parts of the body or through a variety of other practices.   The breaking of seclusion is itself considered a shameful act which brings doubt to the reputation of the patriarch within wider society. The unauthorised circulation of women with men is deemed to be a deeply shaming act which must be revenged, usually by the death of both individuals.

Honour is not just a matter for the family-household but is the concern of the entire patrilineal line.   As a result, to further ensure the control of women and the prevention of shameful behaviour marriage is endogamous, ideally between patrilateral parallel cousins.   A close network is thus built, capable of observing and controlling female activity.

It is often not possible for a family-household to strictly observe the social ideal.   The ideal rather represents a sought-after behavioral code which family-households seek to implement as they achieve the capacity to do so.   It should be stressed however that no matter how deviant a family-household is from fulfilling the conditions of the ideal, males will not compromise that part of the ideal which deals with female propriety.   Even in the most cosmopolitan of Pakhtun homes,

seclusion is strictly observed. In this sense, Pakhtun society is very conservative. The social ideal continues to be recreated over time, demonstrating an acceptance by males of an ideology beneficial to them. Female attitudes towards it are much more difficult to ascertain.

CHAPTER SIX:

A COMPARISON OF CLASS AND ACREAGE GROUPS

IN SCARP MARDAN

1. Data coverage

The classifactory method used by the SCARP Mardan evaluation team was that of size of land holding, tenure and income. Yet as was stressed in Chapter Two such a grouping procedure can be erroneous because it equates holding size and scale. The purpose of the present chapter is to move beyond such categories by commencing an analysis of the SCARP Mardan data utilizing the Patnaik-Folbre method described in Chapter Four.

In order to do this, it was necessary to recollate the sample data from the grouped clusters of interrelated variables to the level of the family-household. In the course of such a process, financial constraints dictated an economizing on the variables collated. As a result the data coverage in the present analysis is not as extensive as that of the original report. This limitation however does not impinge upon this part of the study, because it is an analysis of the class-

based economic characteristics of peasant family-households. The results should permit an assessment of the usefulness of marxian class categories in understanding agrarian structure and change.

Financial constraints further dictated that analysis be confined to two of the eight villages sampled in the SCARP Mardan baseline evaluation. Two villages were selected on the basis of their representativeness of the overall pattern of tenure found within the whole sample. The original evaluation report groups family-households by tenure and if class groupings are valid they should to some extent cut across orthodox methods of grouping data.

The comparison between the tenure patterns of the whole sample and those of the two villages selected is given in Table 1. Table 1 also notes the percentage of female-specific surveys conducted in the whole sample and in the two villages selected. Obtaining a representative data set on women was an important consideration if the pattern of intrahousehold labour allocation indicative of the sexual division of labour was to be assessed. Invoking the central-limit theorem, statistical tests demonstrated that if the means of the whole sample were taken as the centres of confidence intervals the selected observations were captured at a 99 per cent level of

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Table 1: Comparison of characteristics of whole
         sample and selected villages, in per cent

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Sample	Characteristic				
	Owner of land	Owner-tenant	Landless tenant	Other	Female specific survey
Whole	31.6	22.8	32.4	13.2	73.3
Selected	30.8	23.8	36.0	9.8	70.5

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Source: Calculated from Freedman [1986a].
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confidence. This confirmed the presupposition that the two selected villages taken together had similar characteristics when compared to the whole sample.

For the purpose of this study the SCARP Mardan data has been further restricted. In order for family-household economic profiles to be fully consistent, only those family-households that undertook a female specific survey in the two villages were included in the set of family-households for which the data was recollated. This meant that of the 166 family-households sampled in the two chosen villages, the final recollated data set for the two villages consisted of 102 family-households, comprising a total population of 885 people and working an operated area of 430.25 acres.

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This restriction has two implications. Since the data under consideration is only a subset of both the total sample and the selected villages it would be inappropriate to estimate population characteristics from the following analysis. Again, this does not greatly effect this part of the present analysis as it is not so much concerned with population parameters as with the usefulness of class as an analytic method. Second, in the subset there are, unfortunately, no resident landlords. The absence of quantitative data concerning landlords is the result of their refusal to take part in either the SCARP Mardan evaluation as a whole or the female-specific survey; it is not clear which was in fact the case. It can be noted that the refusal of landlords to take part in sample surveys is a common occurrence in South Asia. The absence of quantitative data concerning landlords is a concern; it can however be noted that the present analysis is focused upon the peasantry and not the characteristics of the landlord class. Indeed, it can be argued that by excluding the landlord class the present analysis will tend to underestimate the full extent of class differentiation. The results of the analysis could thus err to the side of conservatism. Be that as it may, the importance of landlords in the socio-economic structure of the project area means that it is useful to detail some information concerning the characteristics of the class. Qualitative data gathered in

1992 will therefore be detailed below.

It was also necessary to extricate from the SCARP Mardan data the set of family-households that were not engaged in agriculture because they were not peasants and were therefore not strictly relevant to the Patnaik-Folbre method. This was done by constructing a statistic which reflected the disposition of family-household labour expenditure. From a family-household's total labour expenditure was subtracted all labour expended in domestic work performed in the household economy. The resulting total non-domestic work was then divided into agricultural and non-agricultural labour expenditure performed in the household and non-household economies. A ratio of non-agricultural to agricultural work was then established. The resulting "agricultural statistic" had a possible value of from zero to infinity. Family-households for which the agricultural statistic was equal to or greater than one were deemed to be primarily non-agricultural. Family-households for which the agricultural statistic was between zero and less than one were deemed to be primarily agricultural. This calculation had the effect of further reducing by 12 the number of family-households to be considered in detail, bringing it to 90. The economic characteristics of the non-agricultural family-households are considered in Chapter Ten.

It is worth noting some of the specificities of the two selected villages. Sarfaraz is the westernmost village sampled in the project area, while Platoo is the easternmost village. In Sarfaraz, the evaluation team believed that the presence of a resident landlord led land to be highly concentrated; the 40 per cent of the family-households with the least land operated a mere 3.3 per cent of the operated area. Sixty-three per cent of Sarfaraz farming family-households were tenants. Platoo, on the other hand, was the least concentrated of the villages sampled in terms of land; however, in that the 40 per cent of the family-households with the least land held only 12.7 per cent of the operated area the land remained quite concentrated. The bulk of the land in Platoo was owned by absentee landlords. Some 90 per cent of Platoo farming family-households were tenants.

Given the apparent importance of resident and absentee landlords to the economies of Sarfaraz and Platoo, it is useful to briefly note some of the characteristics of the landlord class found in the area. Popularly referred to by cultivators as "feudal lords", entry into the landlord class has been by birth and thus the class as a whole has tended to be numerically small. The control of the landlords of the principal means of production has however made them economically powerful. It is thus the case that in Sarfaraz

the resident landlord is perceived by villagers to be the wealthiest family-household in the village. Similarly, in Platoo the absentee landlord's wealth is considered to eclipse that of all village residents. The holdings of the landlords have moreover been augmented by their seizure of lands which have historically been deemed to be common property.

In the project area the leasing out of land by landlords to tenants has occurred under a variety of tenurial contracts. Although cash rents have not been unknown, and indeed remain preferred by tenants, sharecropping arrangements were the norm in 1985. Sharecropping contracts took a multitude of forms, but common features included: a contract length of one year; the provision by the landlord of some inputs, such as half the chemical fertilizer used on the holding or half the equipment necessary for the processing of sugarcane into gur; and a rental cost of half the final output, which was usually delivered directly to the landlord.

The power of landlords in the land market appears to have been reinforced by activities in other markets. The most important of these has been the credit market, within which the landlord has often operated alongside the shopkeeper as the principal moneylender. While shopkeepers advance credit for consumption purposes, given the relatively high minimum loan size and

collateral requirements of the Agricultural Development Bank of Pakistan the landlord has often been the only accessible source of credit for productive purposes for small operators. Landlords advance cash against the provision of future agricultural production from their tenant. Interest charges have most commonly occurred through an undervaluation of the output requirements necessary to obviate the loan, and implicit interest rates have often been quite high. Debt has thus been a key mechanism by which the presence of sharecroppers on the land is perpetuated.

Surpluses that have accrued to landlords in the form of rental payments and loan repayments have provided landlords with investible resources. Landlords have faced a number of alternative investment possibilities. Two investment possibilities have affected the productive potential of the agrarian sector: orchards and tractors. Fruit grown in large orchards has been the primary way by which landlords in Mardan district have engaged in agricultural production. Blomqvist has estimated the return to plum production in an established orchard in the project area at Rs.10000 per acre (Blomqvist [1986]: 151). Such production however is an investment, in that an orchard takes at least 7 years before bearing any fruit and thus the income generated is a return on an investment. Fruit production has large if irregular labour

requirements at the stages of production, harvesting and distribution, and thus the maintenance of a rural labour force has been in the interests of landlords engaged in fruit production. The provision of credit by landlords can facilitate just such a phenomena. It can also be further noted that because of its heavy water requirements fruit production can seriously reduce the amount of water available to other producers and may thus detract from non-fruit production.

Landlords have also invested in tractors and other machinery and equipment. The ownership of machinery and equipment has not been designed for exclusive use on the holding owned by the landlord but has also been rented out to any cultivator capable of paying Rs.50 per hour. Landlords have often been the only member of a village capable of providing modern production technologies. They have thus been capable of temporarily capturing and monopolizing technical change for the purpose of enhancing their income. It is ironic that the Agricultural Development Bank of Pakistan often provides low-interest loans to landlords to enable them to purchase tractors, thus subsidizing an already powerful class.

While orchards and machinery may augment agrarian production, the bulk of investments made by landlords have not enhanced

rural productivity. Indeed, it should be stressed that at the time of the SCARP Mardan study, agriculture and industry was viewed by large investors as an inferior alternative when compared to non-agricultural non-industrial investment. The most common form of non-agricultural non-industrial investment was in property. This could have included an expansion of rural landholdings through the purchase of land from small owner-operators or an entry into urban land markets, particularly those of Mardan, Charsadda and Peshawar. Alternatively, resources might be invested in human capital. While theoretically this could augment the productive potential of the agrarian sector, in practice the main purpose behind education was to enhance the capacity of the educated to migrate. Finally, a particularly favoured investment amongst the landlord class was in politics and it remains so today. In Mardan district as in Pakistan generally politics is a costly business in which only the wealthy can meet the costs of entry. Once entry has been made however access to the state can ensure a flow of rents back to the landlord and thus an enhancement of their resource capacities. It remains no accident that most Pakistani politicians come from the landlord class.

It should be noted that these investment choices have been affected by the landlord's place of residence. An absentee

landlord residing in a city would thus be more likely to invest in urban property, while a resident landlord would be more likely to go into politics.

While investment brings additional rewards to landlords, it must be emphasized that their ultimate power has historically resided in their control of the principal means of production, land, and their capacity to use such means of production to extract resources from non-owners. Rental contracts in the project area were enforced through a variety of mechanisms. At an ideological level, the requirement within Pakhtunwali that a family-household, to maintain its honour, should fulfil any commitments that have been undertaken, could serve to make contract compliance a moral issue within the village. It is possible that as a result of such moral obligations any resistance to contract compliance might take a less overt form (see Scott [1976]). At an economic level, land scarcity in the face of potential eviction at the behest of the owner can be expected to reduce resistance to contract compliance (Hilton [1991]: 5). At a coercive level, those who have resisted contract compliance have been subjected to public beatings, wounding or death by employees of the landlord. As recently as 1991 Platoo's landlord had sharecroppers shot for resisting rent increases. The power of the landlords in Sarfaraz and Platoo has thus ultimately been a coercive one,

a fact which is well recognized by tenants.

With such apparent economic power in the hands of landlords it is not surprising that an inegalitarian pattern of income distribution was found in both villages. In Sarfaraz, the poorest 40 per cent of the family-households secured 16 per cent of the village income, while the richest 20 per cent of the family-households secured 46.3 per cent of the village income. In Platoo, the poorest 40 per cent of the family-households secured 17.5 per cent of the village income while the richest 20 per cent of the family-households secured 45.8 per cent of the village income. Such inequality makes comprehensible the fact that in both villages family-households joined village factions predominantly in order to secure access to land.

2. Applying the labour-exploitation criterion

In order to utilize the labour-exploitation criterion developed by Patnaik and outlined in Chapter Four it is first necessary to clarify the unit of measure. In the original formulation of the labour-exploitation criterion the unit of measurement for labour expenditure was the working day. For the purpose of the present study however working hours are used as the unit for measuring labour expenditure. This is because hours of labour expenditure serve to standardize

working days which are non-homogenous by sex and age. A
standardized unit of measure also makes it easier to compare
intrahousehold labour allocation.

That having been clarified it is important to note three
limitations of the labour-exploitation criterion when it is
applied to the concrete situation of the SCARP Mardan project
area. As noted in Chapter Four the labour-exploitation
criterion assesses self-employment relative to net labour
hired-in through the form of wage labour or land rental.
Recalling equation (3a), the labour-exploitation criterion
takes the form

$$E = \frac{(H_i - H_o) + (L_o - L_i)}{F} \qquad (3a)$$

where (E) is the labour-exploitation criteria; (H_i) is the
total labour hours hired-in on the operational holding of the
family-household in a given time period; (H_o) is the total
family-household labour hours hired-out to work off the
family-household's operational holding for a given time
period; (L_i) is the total labour hours worked by both family-
household and hired-in labour on the leased-in portion of the
operational holding in a given time period; (L_o) is the total
labour hours worked on land that has been leased-out by the
family-household in a given time period; and (F) is the total
labour hours worked by family-household members in

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agricultural work on the operational holding of the family-household in a given time period.

The first limitation of this equation is that the land rental term presents a distortion in the categorisation of class in Sarfaraz and Platoo. In Sarfaraz 40 per cent of the family-households own a mere 3.3 per cent of the operated area, 63 per cent of the family-households are tenants and 20 per cent of the family-households operate 60 per cent of the land. In Platoo 40 per cent of the family-households own only 12.7 per cent of the operated area, 90 per cent of the family-households are tenants and 20 per cent of the family-households operate 46 per cent of the land. Freedman notes that "the concentration of operational holdings is _less_ than the concentration of landownership" (Freedman [1986c]: 202, emphasis added), implying that both Sarfaraz and Platoo have very concentrated land ownership. Indeed, in the project area as a whole 20 per cent of the family-households own 67 per cent of the land. In Sarfaraz and Platoo resident and absentee landlords dominate the land rental market which is essential to the vast majority of villagers' ability to maintain adequate operational holdings. Landlords often do not wish to sell land because of a lack of alternative viable investment opportunities. Land sales would also mean the loss of an important facet of both their overall economic dominance

and their social status. The continued presence of landlords who monopolize land ownership means that the land market is highly imperfect. In addition, as noted above the landlords are not captured in the current data.

This means that only very limited numbers of family-households in the data set under consideration will lease-out land, while most family-households will lease-in land. Indeed, only 7.8 per cent of the total operated area is leased-out by family-households captured within the data and, as will be seen, this is spread across 7 agricultural family-households located in 4 agrarian classes. For most family-households the land leasing term will therefore be negative. Furthermore, for many family-households it will be both negative and large because an expansion in the size of operated area can only come about through the rental of additional land. The imperfect land market can thus be expected to generate a bias towards a negative sign in the numerator of equation (3a) and thus in the overall value of the labour-exploitation criterion itself, indicating the presence of small or poor peasant classes regardless of the actual class position. Such negative signs are an indication of the monopoly power of the landlords and not necessarily an indication of the class position of a renting-in family-household, working as it is in a market environment which constrains reproductive possibilities. This

argument is supported in Table 8 below.

In order to obviate such a difficulty the present analysis will use a reduced-form labour-exploitation criterion in the preliminary assessment of differentiation in the project area. The reduced-form labour-exploitation criteria ignores land leasing. The equation is thus

$$E = \frac{H_i - H_o}{F} \qquad (10)$$

where all terms are as they are defined above. This adaptation of the labour-exploitation criterion is in fact an earlier variant derived by Patnaik and is being adopted in line with Patnaik's recommendation that the formula be sensitive to specific circumstances. It is also the preferred choice of some economists such as Akmal Hussain and John Sender (Hussain [1986]; Sender [1986]). Although theoretically the use of equation (10) could alter the E-statistic downwards, the bias is likely to be small given both the small numbers of family-households leasing-out land and the small quantities of land being leased-out.

This reduced-form is however subject to a second difficulty in the specific context of the SCARP Mardan project area. It was noted in Chapter Five that in general hired labour is not extensively used in the project area, while exchange labour is

widely used. The use of exchange labour will tend to reduce the value of the labour hiring term, thus reducing the overall value of the E-coefficient generated by the use of the labour-exploitation criterion. Yet it should not be assumed that in terms of its economic effects exchange labour is qualitatively different from labour that receives a wage. While reciprocal labour exchanges are usually based upon pre-capitalist relations of prestation, they remain a means of mobilizing additional labour for production. Such mobilization of labour will mean different things to different farmers as a result of respective differences in resource endowments and the purpose of production. This is illustrated by the fact that reciprocal labour exchanges cannot generate equal products in the context of unequal distribution of the means of production. Without an exact knowledge of the form of reciprocity it should therefore not be assumed that the reciprocity is equal. As both Kritsman and Mao argued, reciprocal labour exchanges can be forms of hidden labour hiring and thus forms of hidden surplus extraction which foment agrarian accumulation.

At the same time, reciprocal labour exchanges cannot be treated as family-household labour to be included in the F-term of the labour-exploitation criterion. Such treatment would assume an ease of substitution between family-household

and non-family-household labour and this assumption would have to be tested. In this context the Pakhtun social ideal detailed in the last chapter should be noted. An important means of attaining the social ideal is through men controlling the comportment of women. This is achieved by assigning women a role restricted to the household economy. The need to achieve the social ideal means that the ease of substitution of family-household and non-family-household labour can depend upon the resources available to the family-household. For lower income family-households there will be greater flexibility in substitution than in higher income family-households as the latter can better meet the social ideal. Rather than attempt to untangle such a complex web, it appears both simple and more appropriate to treat reciprocal labour exchanges as a form of hired labour. For the purpose of the present analysis then reciprocal labour exchanges into or out of the family-household will be included in the labour hiring term.

Equation (10) thus attempts to capture surplus extraction through participation in wage and exchange labour markets relative to self-employment. A third limitation which applies to Pakistan in general and to the SCARP Mardan project area in particular must however be addressed. Not all economic agents have equal access to wage and exchange labour markets and

entry into the labour market can be characterized as being segmented on the basis of sex. As implied above, the application of the Pakhtun social ideal means that in rural areas in particular females do not by and large enter the labour market but rather tend to work exclusively in the household economy. Indeed, in the data from Sarfaraz and Platoo only two women work in non-family-household agriculture, and their work is both seasonal and part-time. A rigid sexual division of labour which structures the capacity to participate in the public sphere of the non-household economy is thus part of the social ideal.

The hiring-in and hiring-out of wage and exchange labour will therefore usually refer to males and occasionally children, while self-employment will usually refer to agricultural work performed by all family-household members. This will tend to obscure the extent of rural class differentiation because the numerator of the labour-exploitation criterion will be biased downwards relative to the denominator, thus reducing the value of the E-statistic. A way of getting around this bias is to focus, for the purpose of family-household class location, on male net labour hired-in relative to male labour in self-employment.

Such an approach need not be as counter-intuitive as might

first appear. The process of peasant class differentiation is facilitated through the entry of family-households into market relationships, particularly the market for labour. If only males enter into such market relations, then the process of differentiation will witness the commodification of male labour. Male engagement in labour markets will result in surplus being extracted from males through determinate relations of production. As a result, the class location of the family-household will be determined by the position of the family-household members who participate in the non-household relations of production: the males. The burden of the surplus extraction can then be redistributed through the family-household, as argued by Folbre.

It is thus the case that for the purpose of the present analysis the reduced-form labour exploitation criterion can be amended so as to appear as

$$E = \frac{H_{i(m)} - H_{o(m)}}{F_{(m)}} \tag{11}$$

where all terms are as before and (m) refers to males. This adjustment thus examines the net hiring-in of male wage and exchange labour relative to the self-employment of male labour.

With these provisos, the amended reduced-form labour-ex-

ploitation criterion was applied to the 90 agricultural family-households of Sarfaraz and Platoo extracted from the original data. The analysis starts by assessing the usefulness of the class-based classification method relative to an orthodox acreage-based classification. The analysis is thus first seeking to uncover whether or not there is a disjunction between economic class and acreage, as has been argued by the differentiation perspective. The analysis then goes on to examine patterns of family-household labour expenditure. The results of statistical tests are then detailed. The analysis of this chapter concludes with an account of the specificity of differentiation in SCARP Mardan.

3. Comparing alternative groupings

Table 2 summarizes information from Sarfaraz and Platoo concerning the number of agricultural family-households, average area operated, and the proportional distribution of operated area. This information has been grouped by both economic class, utilizing the amended reduced-form labour-exploitation criterion, and by the acreage groups used by the SCARP Mardan evaluation team. Landless labourers have been included in these initial tables, although by definition their class position will coincide with their acreage group.

Table 2 illustrates the range of economic classes generated

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Table 2: Distribution of agrarian family-households by economic class and acreage groups

Acreage group	Rich peasant	Middle peasant	Small peasant	Poor peasant	Landless labourer	All
	No.	No.	No.	No.	No.	No.
0.00	0.0	0.0	0.0	0.0	2	2
.01-<1	0.0	0.0	4	9	0.0	13
1-<2.5	2	7	7	2	0.0	18
2.5-<5	1	11	8	0.0	0.0	20
5-<7.5	3	13	3	0.0	0.0	19
7.5-<12.5	0.0	13	1	0.0	0.0	14
12.5-25	0.0	4	0.0	0.0	0.0	4
All	6	48	23	11	2	90
	Area	Area	Area	Area	Area	Area
0.00	0.0	0.0	0.0	0.0	0.0	0.0
.01-<1	0.0	0.0	0.58	0.43	0.0	0.48
1-<2.5	1.75	1.83	1.48	1.12	0.0	1.25
2.5-<5	3.75	3.84	3.70	0.0	0.0	3.78
5-<7.5	6.01	6.16	5.96	0.0	0.0	6.11
7.5-<12.5	0.0	9.92	9.50	0.0	0.0	9.89
12.5-25	0.0	16.67	0.0	0.0	0.0	16.27
Average	4.21	6.86	3.03	0.56	0.0	4.78
	%	%	%	%	%	%
0.00	0.0	0.0	0.0	0.0	100	100
.01-<1	0.0	0.0	30.8	69.2	0.0	100
1-<2.5	11.1	38.9	38.9	11.1	0.0	100
2.5-<5	5.0	55.0	40.0	0.0	0.0	100
5-<7.5	15.8	68.4	15.8	0.0	0.0	100
7.5-<12.5	0.0	92.9	7.1	0.0	0.0	100
12.5-25	0.0	100	0.0	0.0	0.0	100
Average	6.7	53.3	25.6	12.2	2.2	100

Notes: Distribution based on equation (11). Area is average size of operational holding in acres. Percentages are proportions of average operational holdings. Percentages may not sum to 100 due to rounding.

Source: SCARP Mardan Database (hereafter SMDB).

through applying the labour-exploitation criterion to the data set. Following the terminology used in Chart 1 these have been called rich peasants, middle peasants, small peasants, poor peasants, and landless labourers. As defined in Chart 1, rich peasant family-households employ others at least as much as they are themselves engaged in agricultural work. The reproductive strategy of the class is thus predicated upon the exploitation of the labour-power of non-family-household members. Middle peasant family-households by definition employ the labour of others to a lesser extent than their own self-employment. The reproductive strategy of the class is oriented towards the use of family-household labour on the land and non-land resources they control so as to strive to be self-sufficient and thus obviate the need to hire-in or hire-out labour to maintain reproduction. Small peasant family-households by definition tend not to employ outside labour on their operational holding, while at the same time working for others to a lesser extent than their own self-employment. The reproductive strategy of the class is geared towards self-sufficiency through the use of family-household labour to the full extent possible given the land and non-land resources under the control of the family-household. Poor peasant family-households by definition work for others to a greater extent than they work for themselves. The reproductive strategy of the class is based upon family-household labour

being exploited by non-family-household members. Landless labourer family-households by definition work primarily for non-family-household members. The reproductive strategy of the class is based upon the family-household being exploited through the labour market.

Table 2 illustrates that in the project area the majority of peasant family-households are located within the middle peasantry. Middle peasant family-households operate just over half the operated area, working a holding of on average 6.86 acres. Twenty-three family-households in the project area are located within the small peasantry. This class works 25 per cent of the operated area and family-households within the class have an average holding of 3.03 acres. The third largest class is the poor peasantry, which consists of 11 family-households. Family-households of this class comprise 12 per cent of the operated area and work an average holding of .56 of an acre. Six family-households are located within the rich peasant class. This class works almost 7 per cent of the operated area and family-households within the class have an average holding of 4.21 acres. The two remaining agricultural family-households are located within the landless labour class. The overall average size of operational holding in the family-households under consideration is 4.78 acres; while this rises to 4.89 acres if the landless are excluded,

operational holdings are in general quite small.

The next item to emerge from Table 2 is that economic class groupings have cut across acreage groupings. It is thus the case that rich peasants operate in the three acreage groups that are dispersed around the overall average size of operational holding for the family-households of the class. Middle and small peasants operate in a larger range of acreage groups. Middle peasants are found in all acreage groups between .01 to less than 1 and 12.5 to 25 acres, while small peasants are found in all groups between .01 to less than 1 and 7.5 to less than 12.5 acres. Table 2 also shows some interesting results concerning the class location of some of the larger operational holdings. Some middle and small peasants have larger operational holdings than rich peasants. This counter-intuitive finding will be discussed in detail below.

Table 3 provides information on the tenurial status of agricultural holdings. The definitions of tenurial status follow those used by the SCARP Mardan evaluation team. Part a) of Table 3, giving tenure status by acreage group, mirrors the presentation of the evaluation team. Part b) of Table 3 reworks the classification of tenure status by economic class. If attention is first given to the acreage groupings in part

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Table 3: Tenure status of agrarian family-households
         by economic class and acreage groups

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a) Acreage group	LOO	LOT	LLT	LL	All
	No.	No.	No.	No.	No.
0.00	0	0	0	2	2
.01-<1	11	0	2	0	13
1-<2.5	6	5	7	0	18
2.5-<5	4	6	10	0	20
5-<7.5	0	9	10	0	19
7.5-<12.5	0	4	10	0	14
12.5-25	0	2	2	0	4
All	21	26	41	2	90

b) Economic class	LOO	LOT	LLT	LL	All
	No.	No.	No.	No.	No.
RP	1	2	3	0	6
MP	6	18	24	0	48
SP	6	4	13	0	23
PP	8	2	1	0	11
LL	0	0	0	2	2
All	21	26	41	2	90

Notes: LOO is landowning operator; LOT is landowning tenant;
LLT is landless tenant; LL is landless; RP is rich peasant; MP
is middle peasant; SP is small peasant; and PP is poor
peasant.

Source: SMDB.
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a), it would appear that those operating the largest holdings
of 7.5 acres or more tend to be landless tenants, while those
operating the smallest holdings of between .01 and less than
1 acre tend to be landowning operators. This indicates the
large degree of hiring-in and out of land in the two villages.

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This is both consistent with the findings of the SCARP Mardan evaluation team and supports the need to remove the land leasing term from the method of preliminary class categorisation.

Part b) of Table 3 supports to a degree the finding in Table 2 that class cuts across orthodox methods of grouping family-households such as size of operational holding. While it appears that poor peasants are predominantly landowning operators, landless tenants constitute about half of both the rich and middle peasants and 56.5 per cent of the small peasants. Class thus seems to transcend tenurial form, as would be expected from the discussion in Chapter Two.

Despite the consistency of these findings with the theory presented in Chapter Two, it is apparent that Table 2 presents a conundrum. This is highlighted by the fact that both the middle peasant and small peasant groupings have some members whose operational holdings exceed that of the largest rich peasant. This item, while of interest, would not necessarily be of great import given the theoretical point that size and scale need not be coterminous. Such an item however serves to focus attention on a related finding. The average size of operational holding of the middle peasant exceeds that of the rich peasant by over 2.6 acres. The extent of this difference

in average operational holdings is substantive enough to bring doubt to bear on the efficacy of the class groupings. This doubt is reinforced by the sheer size of the middle peasantry, constituting as it does over half the agricultural family-households in the project area. Taken together these two findings could easily lead to a questioning of the usefulness of the differentiation perspective in explaining the agrarian structure of the two villages. The doubt raised by this con-undrum means that it must be addressed. Such a task is undertaken below in two stages. First, in section 5 of this chapter an argument is presented which both resolves the conundrum on the basis of spatially-specific economic char-acteristics and demonstrates the contingent nature of peasant class differentiation. Second, in succeeding chapters the argument is supported through empirical findings.

Before turning to such a task however it is important to consider in more detail the pattern of labour expenditure on the operational holdings of the family-households under study. This is so not only because the pattern of labour expenditure underpins the basis of classification, but also because it serves as a foundation for the investigation of the sexual division of labour conducted in Chapter Nine. Table 4 summarizes average total labour expenditure in agriculture per holding per year by economic class and acreage group. Total

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Table 4: Total labour-hours worked in agriculture per
holding per year by economic class and acreage
groups

Acreage group	Rich peasant	Middle peasant	Small peasant	Poor peasant	Landless labourer	Average
0.00	0.0	0.0	0.0	0.0	4536.7	4536.7
.01-<1	0.0	0.0	2979.2	3040.7	0.0	3021.8
1-<2.5	2110.6	3618.8	3565.1	2842.1	0.0	3344.0
2.5-<5	3775.3	3540.4	4335.2	0.0	0.0	3870.1
5-<7.5	5370.7	6318.0	4672.9	0.0	0.0	5908.7
7.5-<12.5	0.0	7036.3	12610	0.0	0.0	7434.4
12.5-25	0.0	7352.3	0.0	0.0	0.0	7352.3
Average	4018.1	5568.6	4268.8	3004.6	4536.7	4796.7

Source: SMDB.

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labour expenditure per holding in agriculture comprises self-employed family-household labour regardless of age or sex, as well as non-family-household labour that is hired-in. It is net of family-household labour that is hired-out.

Table 4 illustrates the intuitive point that the total labour hours worked in agriculture increases as the size of the holding increases. This relationship holds for every acreage group, with the sole exception of the 12.5 to 25 acre group, where a slight drop in total labour expenditure is recorded. This drop could easily be a statistical error. It is to be expected that the larger the operational holdings, the more total labour is used. Such is, in general, also the case in

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each of the four class groupings; exceptions are explained by
the amount of family-household labour that is hired-out, as
detailed in Table 6.

Turning to the class groupings, in Table 4 it is apparent that
the middle peasants expend on average more total labour in
agriculture than any other class. This is not surprising
given the size of their average operational holding. It is
further apparent that the small peasants expend on average
more total time in agriculture than do the rich peasants
despite having a smaller average operational holding. This is
so despite the fact that small peasants located in the 5 to
less than 7.5 acre group spend expend less labour in
agriculture than do the rich and middle peasantry. This may
be explained in two steps. First, small peasants located in
the 5 to less than 7.5 acre group expend less total labour
time in agriculture because their net labour hiring is less.
This is demonstrated in Tables 5 and 6. Second, the greater
average total labour time spent in agriculture can be ex-
plained with reference to differences in both the capital-
ization of the holdings and reproductive strategies. As will
be discussed and illustrated in Chapter Seven, the rich
peasants rely more heavily on tractors and farm machinery to
perform farm work than do any other class; as a result,
despite size differences they require less total field labour

than do the small peasantry. At the same time, the reproductive strategy of the small peasants is focused upon the attempt to maintain self-sufficiency through the use of family-household labour to the full extent possible given the land, raw materials and capital available to the family-household. As a result, they apply more labour to their operational holding in an attempt to maintain the self-reliant orientation of their reproductive strategy.

It is important to note that anomalies between class location and total labour utilization such as that just described can be explained in ways which are consistent with differentiation theory. Such is not necessarily the case for anomalies in the groupings based on acreage. For example, if the decline in total labour use detailed in Table 4 for the 12.5 to 25 acre group is not a statistical error it cannot be explained by reference to capitalization of the larger-sized farms. As will be made clear in Chapter Seven larger-sized farms' average capitalization is less than that of preceding acreage groups. The labour expenditure of the largest-sized farms could not therefore be adequately explained using acreage groups and class would offer a better explanation. The proposition that acreage-based anomalies are difficult to explain will be repeatedly demonstrated in the following two chapters.

Table 5 summarizes average total self-employment of all family-household members in agriculture per holding per year. The discrepancy between self-employment and total employment is due to net labour hiring. As can be seen in Table 5, total self-employed labour hours increases as acreage increases, except for an insignificant dip for the largest acreage group of between 12.5 and 25 acres.

Turning to class groupings a slightly different picture emerges. The middle peasantry performs on average the largest amount of self-employed labour, followed by the small peasantry. It follows from the preceding discussion that both do this due to their reproductive strategy. Sufficient, near sufficient or potentially sufficient land, raw material and capital resources means that family-household labour can focus on on-farm productive activities rather than being hired-out to maintain familial reproduction. Ignoring the landless labourers, the rich peasantry and the poor peasantry both perform the least amount of family-household labour. The former does so precisely because of the economic strength consistent with a reproductive strategy based upon exploitation, while the latter does so because of the economic weakness consistent with a reproductive strategy based upon being exploited.

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Table 5: Self-employed labour-hours worked in agriculture
         per per year holding by economic class and acreage
         groups

Acreage group	Rich peasant	Middle peasant	Small peasant	Poor peasant	Landless labourer	Average
0.00	0.0	0.0	0.0	0.0	2136.7	2136.7
.01-<1	0.0	0.0	2559.2	2147.9	0.0	2274.4
1-<2.5	1367.0	3282.7	3185.3	2030.1	0.0	2892.8
2.5-<5	2175.0	2979.9	3806.1	0.0	0.0	3270.2
5-<7.5	2661.9	5540.3	4018.7	0.0	0.0	4845.6
7.5-<12.5	0.0	5433.2	11963	0.0	0.0	5899.6
12.5-25	0.0	5893.6	0.0	0.0	0.0	5893.6

| Average | 2149.1 | 4624.7 | 3782.7 | 2126.4 | 2136.7 | 3883.9 |

Note: Figures may not sum due to rounding.

Source: SMDB.
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Two additional points emerge from Tables 4 and 5. First, all
family-households participate in labour markets, whether
through hiring-in, hiring-out, paying a wage, or exchanging
labour. There appears to be no Chayanovian "ideal-type" of
peasant disengaged from labour markets. Second, the landless
labourers are not seemingly wholly reliant on being hired.
This discrepancy can be explained with reference to animal
husbandry. In the project area family-households can graze
livestock on common property. As will be discussed in Chapter
Ten, many family-households with access to only small
operational holdings engage in some agricultural work through
animal husbandry to supplement their incomes. Indeed, in the

presence of common property such a reproductive strategy is highly rational because it can increase economic security by cushioning income fluctuations. The benefits of such a reproductive strategy will be further discussed in Chapter Ten.

In order to get a clearer understanding of the relationships between total and self-employed labour in agriculture, Tables 6 and 7 are presented. Table 6 gives the average net labour hours hired-in per family-household per year by class and acreage groups. Unlike the amended reduced-form labour exploitation criterion which is used to generate class location the labour hiring data in Table 6 includes females and children. Despite this however the segmentation of the labour market means that Table 6 would be expected to show a clear relationship between net hiring-in of labour and economic class. It is thus not unexpected that the greater the economic strength of the family-household the more outside labour is hired-in, while the less the economic strength of the family-household the more family-household labour is hired-out. Indeed, the rich peasants hire-in twice as much labour as the middle peasants. What is more important is that Table 6 serves to reinforce the previously stated; namely, that a given acreage group can contain a variety of peasant classes, each with different net labour hiring patterns,

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Table 6: Average net labour hours hired-in per year by
economic class and acreage groups

Acreage group	Rich peasant	Middle peasant	Small peasant	Poor peasant	Landless labourer	Average
0.00	0.0	0.0	0.0	0.0	-2400	-2400
.01-<1	0.0	0.0	-420.0	-748.2	0.0	-747.3
1-<2.5	743.8	336.1	-379.7	-812.0	0.0	-24.6
2.5-<5	1600.0	560.5	-529.0	0.0	0.0	176.6
5-<7.5	2708.8	777.7	-654.1	0.0	0.0	856.5
7.5-<12.5	0.0	1603.1	-648.0	0.0	0.0	1442.3
12.5-25	0.0	1458.7	0.0	0.0	0.0	1458.7
Average	1868.9	943.8	-486.1	-878.1	-2400	343.1

Source: SMDB.

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Table 7: Proportion of net labour hours hired-in to
total labour hours worked in agriculture per
year, in per cent

Acreage group	Rich peasant	Middle peasant	Small peasant	Poor peasant	Landless labourer	Average
0.00	0.0	0.0	0.0	0.0	-52.6	-52.6
.01-<1	0.0	0.0	-15.5	-27.2	0.0	-23.6
1-<2.5	36.7	13.1	-10.9	-28.1	0.0	1.8
2.5-<5	42.4	16.4	-12.3	0.0	0.0	6.2
5-<7.5	47.7	12.3	-14.4	0.0	0.0	13.7
7.5-<12.5	0.0	21.7	-5.1	0.0	0.0	19.7
12.5-25	0.0	19.1	0.0	0.0	0.0	19.1
Average	43.1	16.5	-12.4	-27.4	-52.6	4.0

Source: SMDB.

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indicating different reproductive strategies. It should however be noted that a positive relationship also exists between average net hiring-in of labour and acreage groups.

Table 7 clarifies these relationships by summarizing the proportion of net labour hired-in to total labour hours worked by all family-household and non-family-household members in agriculture per holding per year. Again, the information in Table 7 is reflective of the method of defining class status that has been used. Nonetheless, the table contains useful fresh information.

It could first be argued that Table 7 presents a clear relationship between acreage groups and the use of outside labour, given that net labour hiring increases as acreage operated increases. Such an argument would be erroneous. It can be noted that the 7.5 to less than 12.5 acre group is slightly more reliant on non-family-household labour than the 12.5 to 25 acre group. This reliance is however even sharper if the sole small peasant family-household of the 7.5 to less than 12.5 acre group is excluded. Such a removal is justified by the fact that the small peasant family-household represents just 1 of 14 observations. An analysis based on acreage groupings gives no clear understanding of why reliance on labour hiring might decline for the largest-sized holdings.

More importantly, labour-exploitation analysis extracts the relative reliance on the hiring-in or hiring-out of labour in a way that acreage does not. In Table 7 in each of the three acreage groupings for which there are rich peasant family-households the rich peasants are substantially more reliant on outside labour than any other acreage/class combination. For the rich peasants operating between 5 and less than 7.5 acres, this reliance amounts to nearly a half of their total labour requirements, while on average rich peasants rely on outside labour for some 43 per cent of their total labour requirements. Contrary to the findings of the evaluation team, this is not a negligible figure. It is 2.5 times the requirement of the middle peasantry, who are also small net hirers of labour. The small peasantry sells or exchanges over ten per cent of their labour expended in agriculture. The poor peasantry either sell or exchange over 27 per cent of their total labour expenditure in agriculture. This is again not a negligible figure. In general the variations in labour hiring within classes are much less than the variations within acreage groups. The labour-exploitation criterion is thus able to show fairly consistent average values of net labour hiring for holdings in different acreage groups. Recalling the argument of Chapter Two that the commodification of labour is a key structural feature of the capitalist mode of production, Table 7 presents a picture of peasant class

differentiation where there has been a polarization of buyers and sellers of labour-power. The polarization is however seemingly dulled by a large middle and small peasant strata. This will be examined at length later in this chapter.

The reason for the difference in the capacity of class and acreage groups to capture family-household reliance on non-family-household labour is not just the method of calculation. Acreage groups contain a variety of family-households organizing production in different ways and thus with differences in productive purpose. By grouping together family-households of different productive purposes acreage groups tend to underestimate and indeed obscure the extent of peasant class differentiation. It is only by applying a direct indicator of class status such as that prescribed in the method of the labour-exploitation criterion that the conflation of classes and acreage groups can be obviated and holdings of similar productive purposes can be isolated.

4. Statistical support

In order to support the argument that four distinct peasant classes are found in the project area it is necessary to give further evidence of the relative economic strength of the rich peasants as compared to other classes. This is the task of Chapters Seven and Eight. Prior to doing that however it is

useful to test statistically the validity of the classification that has been proposed. This test serves only as a support for the argument advanced; the fundamental strength of the methodology utilized lies in its being consistent with the theoretically-superior account of agrarian structure and change outlined in Chapter Two.

A statistical test of the labour-exploitation criterion must ascertain whether or not the characteristics of the classes generated display significant differences in their mean class values. This involves considering the extent to which variance within classes differs from variance between classes, thus supporting or rejecting the inference that the classes treated as samples are drawn from different populations.

The methods of nonparametric statistics have been used to test the validity of the results generated by the use of the labour-exploitation criterion. While nonparametric statistics do not permit the production of exact solutions to statistical problems, they do allow a rigorously determined approximate solution to precise problems in circumstances where the principal assumptions of parametric statistical methods cannot be taken for granted (Conover [1980]). The principal assumptions behind parametric statistical methods concern: the population parameter and its value; the form of the population

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distribution; and the measurement at the interval (Kazmier [1979]: 376). These are invalid for the purpose of this study for two reasons. First, the family-households under consideration are a restricted subset of those sampled. Second, and more importantly, the argument advanced in Chapter Two stresses the relational yet independent nature of classes. The relational character of classes means that the form of the population distribution cannot be simply assumed.

The use of non-parametric methods is further supported if the limitations of regression analysis in the current context are noted. Regression analysis is based upon estimating the value of a random variable through the utilization of knowledge concerning another quantitative variable. The microeconomic and cross-sectional nature of the current data makes the utility of regression analysis open to question. As Stewart writes,

> it is not unusual to find low R^2 values for equations estimated from cross section data on individuals because one expects a considerable amount of apparently random variation over and above that explained by any underlying relationship that may exist (Stewart [1991]: 56).

In addition, the use of data on individuals living in very poor economic circumstances can lead to substantial gaps in the observations. While it may be possible to estimate the possible value of a variable, the benefits of such a procedure are open to doubt. As Kamenta writes,

> when we deal with samples in which some pairs of obser-
> vations are incomplete, the information contained in the
> incomplete pairs is of relatively little use when
> estimating the regression coefficients (Kamenta [1971]:
> 344).

It is thus the case that regression analysis may have only
limited applicability in understanding the economic charac-
teristics of peasant classes located in the SCARP Mardan
project area. It is for this reason that the use of regres-
sion analysis in the present study has been restricted.

The details of the non-parametric tests conducted are given in
Appendices One and Two. Here the results are summarized. The
first test performed assesses the extent to which the
populations are related through the use of the chi-square
test. The landless are removed from Table 2. This is then
treated as a contingency table with 88 observations and 15
degrees of freedom. The expected frequency of each cell in
the contingency table is ascertained, applied to the contin-
gency table, and as a result an expected frequency table is
produced. The null hypothesis to be tested is that classes
and acreage groups are unrelated. The alternative hypothesis
is that they are related. At a .005 level of significance the
critical chi-square value is 32.8. Calculating the chi-square
value from the expected frequency table gives a result of
65.872. The null hypothesis is therefore rejected.

To test the extent of the association between classes and acreage groups, the contingency coefficient is estimated. The result of C = .654 indicates that while there is a non-trivial degree of association between the two populations, they are not coterminous. The result also indicates that there is little sampling error.

In the expected frequency table, some instances occur where the difference between the observed and the expected frequencies are small. This might give a positive bias to the test statistic, thus overstating the relationship between class and acreage groups. The contingency table is therefore reduced to a 2 * 2 table by pooling together those holdings of less than five acres and of 5 acres or more and by pooling together the rich with the middle peasants and the small with the poor peasants. The resulting contingency table has 88 observations and 1 degree of freedom. The expected frequency of each cell in the contingency table is computed, resulting in an expected frequency table.

The test once again assesses the relationship between classes and acreage groups while making Yates' correction for continuity in order to remove any positive bias in the test statistic. As before, the null hypothesis is that classes and acreage groups are independent categories, while the

alternative hypothesis is that they are not independent categories. At a level of significance of .005 the critical chi-square value is 7.88. Calculating the test statistic while making Yates' correction gives a result of 18.873. The null hypothesis therefore again stands rejected.

As before, the extent of the association between classes and acreage groups is tested by the use of the contingency coefficient. The result has a value of C = .42, which indicates a moderate degree of association between the two populations. It is therefore concluded that while classes and acreage groups are related categories, they are not coterminous.

To test further the hypothesis that classes and acreage groups are separate yet related populations it is possible to use the Kruskal-Wallis test (Kruskal and Wallis [1952]; Conover [1980]). The Kruskal-Wallis test is the nonparametric equivalent of the one-factor randomized design of the analysis of variance. Its sole assumption is that several population groups are independent. The Kruskal-Wallis test statistic is a function of the ranks of the observations, which are grouped by population and then summed. Contrary to previous null hypotheses, the null hypothesis tested is that the populations have the same distribution. The alternative hypothesis is

that at least one of the populations has a different distribution. Upon rejection of the null hypothesis the test also allows a determination of which sets of populations tend to differ. The assessment of which populations tend to differ utilizes Fisher's least significant difference method, but based upon ranks rather than the data itself. Kruskal and Wallis found that in many situations the true level of significance is smaller than stated one, indicating that the test tends to be conservative in assessing the independence of populations.

In order to assess the independence of economic classes, data from Sarfaraz and Platoo concerning surplus generation, capital utilization and market orientation was examined. This data is discussed in the following two chapters. Few would dispute that surplus generation, capital utilization and market orientation are indicative of capitalist farming methods. In testing all three, the total number of observations is 88. The rich peasants contain 6 observations, the middle peasants 48, the small peasants 23 and the poor peasants 11 observations. Four population groups give 3 degrees of freedom.

The test statistic is designated H. Its calculation is detailed in Appendix Two. The critical value of the test

statistic is the upper tail value of the chi-square, which should be distributed as the H statistic with 3 degrees of freedom if the null hypothesis is accepted. Upon the rejection of the null hypothesis assessment of the pairs of population groups which tend to differ requires a separate calculation which is detailed in Appendix Two. The calculation is performed for all pairs of population groups.

Testing the independence of surplus generation in the 4 population groups, the null hypothesis is that the populations are identical. The alternative hypothesis is that they are not all equal. With 3 degrees of freedom and a level of significance of .05, the critical chi-square value is 7.815. The calculations give a test statistic of H = 15.694. The null hypothesis is therefore rejected. Turning to which pairs of populations tend to differ, calculations demonstrate that four of the six possible pairs are independent. On two of the pairs of populations, judgement is reserved.

Testing the independence of capital utilization in the 4 population groups, the null hypothesis is again that the populations are identical. The alternative hypothesis is that they are not all equal. With 3 degrees of freedom and a level of significance of .05, the critical chi-square value is once more 7.815. The calculations give a test statistic of H =

23.748. The null hypothesis is therefore rejected. Turning to which pairs of populations tend to differ, calculations demonstrate that five of a possible six pairs are independent. On one pair judgement is reserved.

Testing the independence of market orientation in the 4 population groups, the null hypothesis is once more that the populations are identical. The alternative hypothesis remains that they are not all equal. With 3 degrees of freedom and a level of significance of .05, the critical chi-square value is again 7.815. The calculations give a test statistic of H = 21.311. The null hypothesis is therefore rejected. Turning to which pairs of populations tend to differ, calculations demonstrate that four of a possible six pairs are independent. On two pairs of populations judgement is reserved.

It is thus the case that in all three tests the null hypothesis is rejected. It is further the case that out of a possible 18 pairs of populations 13 are demonstrated to be independent. Given the conservative nature of the Kruskal-Wallis test these are quite robust results. It is therefore concluded that the Kruskal-Wallis test gives substantive support to the position that the populations are not equal. The inequality between the population groups is the result of differences in class location. The labour-exploitation

criterion is therefore statistically supported as giving a meaningful basis upon which to classify peasant family-households. Given such robust results the remainder of the study will primarily utilize tabular methods in assessing the parameters of class differentiation in Sarfaraz and Platoo. The limitations of regression analysis noted above means that it will only be used in a restricted role.

5. The specificity of differentiation in SCARP Mardan

If there are clear class divisions in Sarfaraz and Platoo, why is the polarization seemingly muted by a large strata of primarily self-employed middle and small peasants? This question can be only be addressed by looking more thoroughly at the opportunities and constraints facing the family-households of the two villages in formulating and implementing actual and potential reproductive strategies. A careful analysis serves both to highlight the unique nature of differentiation in the project area and to provide a frame of reference for subsequent investigation.

It is useful to start at a general level. The theory pre-sented in Chapter Two would lead to an expectation that in the long run processes of agrarian accumulation would produce a sharp polarization of rural family-households into two distinct economic classes, agrarian capitalists and agrarian

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workers. In such a process the sustenance of economic security for those family-households which generate sustained surpluses compel them to use markets to both expand their command over productive assets and to reinforce their capacity to expand their control over productive assets. Surplus-generating family-households thus reorient their reproductive strategies away from household-based subsistence production and towards market-based production for accumulation. As a result of the reorientation of reproductive strategy the family-household becomes integrated into the capitalist mode of production.

Similarly, those family-households which generate chronic production deficits and are thus unable to consistently meet subsistence requirements are compelled to utilize markets in order to attempt to obviate shortfalls in subsistence. This is done by altering reproductive strategies away from household-based subsistence production and towards the selling of labour-power on the labour market. Regardless of the success of such a reorientation its effect will be to integrate family-households in chronic deficit into capitalist relations of production. Markets are thus a key mechanism in the incorporation of family-households into capitalism through a transformation of their non-capitalist reproductive strategies.

It has already been noted however that in the project area certain markets are far from perfect. The land market is monopolized by resident and absentee landlords who extract surplus from tenants in order to support their own economic position. The role of land in providing resources for landlords, when combined with the socio-political power that arises from holding large quantities of land, makes it quite rational for the landlords to seek to restrict the operation of the land market by restricting transfers of land. Other barriers to entry in the land market include both the earnings from the black economy and the lack of alternative investment opportunities in the economy, both of which have the effect of forcing up the price of land beyond that which would be dictated on economic grounds.

The imperfect land market has important implications for peasant class differentiation. For the rich peasants, there is a constraint on the freedom to expand holdings which would otherwise occur with surplus generation. While it is possible for the rich peasants to acquire land by purchase, it is both difficult and costly; and to lease in land requires them to accede in the main to sharecropping contracts which would result in a transfer of their surpluses to landlords. That such an outcome is not desirable for a class oriented towards agrarian accumulation is supported by a log linear regression

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detailed in Appendix Three section 2.iii), which demonstrates
a statistically significant, large and negative relationship
between operational holding and marketed output for the rich
peasantry. In order to pursue the market-oriented reproduc-
tive strategies that are consistent with agrarian accumulation
the rich peasants must therefore expand their participation in
other, less imperfect markets.

As will be demonstrated in Chapter Seven, the rich peasants
are distinct in the quantum of capital stock they have
acquired. It can thus be argued that in the SCARP Mardan
project area the rich peasants expand their sources of
accumulation through the use of the market for capital stock.
The acquisition of capital is logical in that it both eases
time constraints in production as well as providing a superior
source of income generation through the capital rental market,
which most family-households in the project area seek to
utilize. The land market is bypassed, in that while rented
holdings are retained they are not expanded. It can be noted
that this argument is a variant on the one attributed to
Kritsman in Chapter Two. It is as a result of bypassing the
land market that the average operational holding of the rich
peasants is not the largest of the agrarian classes.

The same kind of logic can be applied to the poor peasants.

Regression analysis detailed in Appendix Three sections 2.iii)
and 2.iv) indicates for the poor peasantry non-trivial,
positive and statistically significant relationships between,
on the one hand, income and marketed output, and, on the other
hand, marketed output and operational holding. Yet given both
the less than favourable terms upon which land can be rented
and the inability of very small holdings to adequately meet
subsistence, it is apparent that the poor peasants can only
obviate the squeeze upon their consumption that full
orientation towards self-cultivation entails by exiting from
the land rental market altogether and compensating for any
losses through participation in the labour market. Table 3
demonstrates the extent to which poor peasants own their land,
while Table 5 and Chapter Eight demonstrate the extent of
participation in the labour market. Land which is retained is
owned and is therefore not subject to the same degree of
surplus extraction, thus explaining the statistically
significant, non-trivial and positive relationship of marketed
output and operational holding unearthed by the regression
analysis noted in Appendix Three section 2.iii). Retained
land is used to support a subsistence level which is
predicated upon participation in the market for labour.
Reproductive strategies are thus transformed while the
imperfect land market is bypassed.

It can thus be argued that in the project area economic circumstances compel the rich and the poor peasants to transform their reproductive strategies and integrate themselves into the capitalist mode of production. Transformation in reproductive strategies is not however an exercise in comparative statics. It is rather a dynamic process contingent upon the specific constraints faced by family-households at given points in time and the choices that such constraints foster.

When compared to the rich and poor peasants the middle and small peasants face very different constraints. Both classes still have the potential to be primarily self-reliant. They thus strive to utilize mostly family-household labour to operate the land that they own and that they rent. They attempt to meet subsistence requirements through their own agricultural production. Given the theory discussed in Chapter Two, the middle peasants should in good years be able to generate surpluses which see them through the bad years. The middle peasants may hire-in some labour at peak periods, as demonstrated in Table 7. The small peasants should usually be able to maintain family-household subsistence but will probably not generate much in the way of a surplus. Any subsistence shortfalls will therefore be obviated by hiring-out some family-household labour for limited periods, as

demonstrated in Table 7. For both classes then the potential to meet or to nearly meet family-household consumption requirements on their holdings means that economic circumstances have not led to an alteration in the objective of on-farm activity: it remains household-based production for subsistence.

The reproductive strategies of the middle and small peasants thus fundamentally differ from the rich and poor peasants. This difference is witnessed most dramatically in the markets in which the classes seek to participate. It has already been indicated in Table 3 that land is hired-in by half the middle and small peasant family-households. For the middle and small peasant classes the attempt to maintain on-farm employment of family-household labour in the context of a lack of possessed land means that the land market is of central importance in sustaining the capacity to generate both adequate employment opportunities for family-household members and familial reproduction. The regression analysis of Appendix Three sections 2.i) and 2.iv) supports to some extent this argument; for the middle peasantry, the relationship between output and operational holding is statistically significant, non-trivial and positive, while for the small peasantry the relationship between income and operational holding is statistically significant, non-trivial and positive. Yet land leasing is

not a costless option. As a result of it some family-household labour is appropriated by landlords in the form of rental payments. It is thus ironically the case that the actual and potential ability of the middle and small peasantry to be primarily self-employed rests upon a willingness to be exploited by landlords. Such exploitation may have an effect on the capacity of family-households to achieve economic security because output and income will be transferred to landlords. It is therefore necessary to assess the effect of the exploitation upon those family-households which at first glance appear to be working primarily for themselves.

For reasons previously argued the full formulation of the labour-exploitation criterion given in Equation (3a) was not initially used to categorise the family-households under consideration. The net labour appropriated through land leasing has however been calculated for each family-household. As was expected above the bulk of these calculations produced negative and large results. The results have been added on to the net labour appropriated through hiring in Table 6 and arrayed by class and acreage groups. As in Table 6 the data includes male, female and child net labour hours appropriated. The results are presented in Table 8.

Considering acreage groups first, 1309 hours of net labour is

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Table 8: Average net labour hours appropriated per
         year through labour hiring and land leasing
         by economic class and acreage groups

Acreage group	Rich peasant	Middle peasant	Small peasant	Poor peasant	Landless labourer	Average
0.00	0.0	0.0	0.0	0.0	-2400	-2400
.01-<1	0.0	0.0	-1706	-1133	0.0	-1309
1-<2.5	-534	-1153	-2926	-1367	0.0	-1797
2.5-<5	-2207	-1423	-2976	0.0	0.0	-2083
5-<7.5	1823	-3253	-5242	0.0	0.0	-2766
7.5-<12.5	0.0	-5452	-13554	0.0	0.0	-6030
12.5-25	0.0	-6080	0.0	0.0	0.0	-6080
Average	366	-3359	-3495	-1175	-2400	-2857

Source: SMDB.
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appropriated a year through labour hiring and land leasing
from those operating between .01 to less than one acre; from
this start, the position deteriorates as holdings increase in
size. For the very largest holdings of between 12.5 and 25
acres the average net labour appropriated through labour
hiring and land leasing is 6080 hours a year. This is not
unexpected; given the prevalence of land rental in Sarfaraz
and Platoo, any inward appropriation of labour through hiring
is more than obviated by land leasing.

Turning to class groups, the picture is somewhat different.
Rich peasants operating in two acreage groups have labour
appropriated by landlords, indicating the fact that they have

not exited from the land rental market. For the 2.5 to less than 5 acre group, the appropriation is large: 2207 hours per year. Examining Table 5 and 6 however it is apparent that this figure reflects the large amount of labour that is hired-in to work on leased-in land. Overall, despite the need to rent-in land in the project area, the average rich peasant family-household remains a net appropriator of labour. Granted, the amount is only 366 hours per year and the dispersion is large; nonetheless, the rich peasants are the only class group in such a position. The poor peasants are the next most favourable group, but they lose on average 1175 hours of labour expenditure a year through labour hiring and land leasing. Seventy-five per cent of the labour appropriated from the poor peasants is through labour hiring; only a quarter comes from land leasing, reflecting the previously mentioned point that the bulk of poor peasants are in fact landowning operators.

The most interesting finding is that the small and middle peasants lose the most labour through hiring and leasing, exceeding even that of the landless labourers. The extent of the difference between classes is worth noting. Whereas for the rich peasants the overall appropriation is +366 hours a year, for the middle peasants the overall appropriation is -3359 hours a year. For the small peasants the figure is even

higher. The net appropriation of labour from the middle and
small peasantry through land leasing is substantial enough to
make implausible the idea that exploitation has no affect upon
the economic security of the two classes.

The extent to which exploitation through land leasing can
place a substantial economic cost on the primarily self-
employed is further demonstrated by Table 9, which details
rental payments of holdings and the form of payment. The most
striking aspect of Table 9 is the fact that the average rental
payment per holding of a middle peasant family-household
paying rent is twice that of the rich peasantry, almost three
times that of the small peasantry, and almost eight times that
of the poor peasantry.   Such a burden cannot simply be
attributed to larger average operational holdings, for the
differences in terms of size of holdings, as outlined in Table
2, are not as extensive as differences in the amounts of rent.
For example, middle peasants pay on average twice as much as
rich peasants for an average holding only 50 per cent larger
and they pay on average three times as much as small peasants
for an average holding that is only double the size.   Table 9
also indicates that of 48 middle peasant family-households, 42
pay some form of rent and of this 32 make a payment in kind.
Payment in kind is indicative of sharecropping; thus 67 per
cent of middle peasant family-households are engaged in some

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Table 9: Holdings paying rent and amount of rent
         per year by mode of payment, in rupees

Form	Rich peasant	Middle peasant	Small peasant	Poor peasant	All
In kind	11389	280664	47955	2362	342372
(Number)	4	32	12	1	49
In cash	10149	102192	9476	1059	122876
(Number)	4	20	7	2	33
All	21538	382857	57431	3421	465249
(Number)	5	42	18	3	68
Average 1	3589.7	7976.2	2497.0	311.0	5286.9
Average 2	4307.6	9115.6	3190.6	1140.3	6841.9

Notes: Average 1 is rent per total number of family-house-
holds in class. Average 2 is rent per total number of family-
households paying rent in class. Figures may not sum due to
rounding.

Source: SMDB.
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form of sharecropping however small. A similar proportion of
small peasants are engaged in sharecropping. As has been
noted, the typical sharecropping contract in the project area
involves a substantial redistribution of output. In exchange
for land and one half of the cost of some inputs, one half of
all output produced on the sharecropped land goes to the
landlord. Taken together, Tables 8 and 9 indicate that the
middle peasantry, while numerically large, while having the
largest operational holding, and while controlling sufficient

productive assets to adequately employ family-household labour, is in fact subject to large magnitudes of surplus appropriation through the land market. Similarly, the small peasantry have large magnitudes of their labour appropriated, although in the case of the small peasantry it is through a combination of land leasing and labour hiring. These large magnitudes of surplus appropriation explain a seemingly perverse regression result summarized in Appendix 3 section 2.iv): namely, that for both the middle and small peasantry a statistically significant, non-trivial and negative relationship exists between income and on-farm family-household labour expenditure.

The finding of surplus appropriation amongst the middle and small peasantry means that they do not represent a Chayanovian ideal of primarily self-employed cultivators. This merely reinforces the demonstration in Table 5 of the extent of participation of all classes in labour markets. It is rather the case that the reproductive strategies of the two classes are predicated upon their being exploited by dominant classes.

This specificity is the result of the attempt to maintain household-based subsistence production in the context of a land market subject to monopoly power. This reproductive strategy has two consequences. First, both classes do not

attempt to bypass or exit from the land market; rather, they attempt to maintain their place in it, in order to both attempt to better meet family-household consumption needs and to attempt to produce some surpluses. This is another reason why the middle peasants have such a large average size of operational holding. Second, the price of such participation is the appropriation of surplus by the landlords. As was seen in Table 8, this is particularly heavy for the middle and small peasants. The middle and small peasants thus witness contradictory tendencies towards attempting to maintain and even expand operated area while at the same time paying the cost of greater absolute surplus extraction. This contradiction is perhaps most clearly witnessed in the small peasantry: the regression equation listed in Appendix Three section 2.iv) for the small peasantry shows a statistically significant, non-trivial and positive relationship between income and operational holding and a statistically significant, non-trivial and negative relationship between income and on-farm family labour expenditure.

The economic insecurity that results from this contradiction is not only a function of harvests; it is also a function of the "benevolence" of landlords, in that it is in the interest of the landlords to maintain dependent family-households so that exploitation can continue and thus resources can continue

to be appropriated. It is rational for landlords to seek to maintain the existing structural arrangements, thereby ensuring that the bulk of small and middle peasants remain capable of reproducing themselves through family-household subsistence production. It is not rational for landlords to undermine the basis of production and reproduction for the bulk of the family-households in the project area. Subsistence production thus remains a feasible reproductive strategy in the project area because of the willingness of landlords to rent out sufficient quantities of land.

The contradictions engendered by this reproductive strategy are felt most immediately at the level of the family-household. Rooted in landlord-facilitated subsistence production, many individual family-households in the middle and small peasantry will lack economic security. Appropriation of surplus will generate tendential pressures towards economic crisis in less-than-optimum years, while the production of a surplus will result in the contradictory phenomena of increased absolute exploitation. These tendencies and counter-tendencies will often insinuate into the daily life of individual family-households of the two classes, and for some alternative feasible reproductive strategies may be created. These are sorted through at the level of family-household day-to-day decision making. As will be outlined in Chapters Seven

and Eight, for the family-households within the middle and small peasantry facing feasible alternative reproductive strategies a process may be underway wherein some individual family-households are witnessing the beginning of an alteration in reproductive strategy. For these family-households the contours are emerging yet the final form is not fixed; indeed, the final form cannot be confidently asserted because of the class power behind the imperfect land market.

A possible alteration in reproductive strategy of the small peasantry is fairly clear; the fact that Table 7 and Chapter Eight demonstrates that many family-households must resort to occasionally hiring out family-household labour indicates tendencies towards a cumulative deterioration of their position and the beginning of their integration into capitalist relations of production. Such family-households do not as such however face immediate crises of subsistence and hence do not face the same kind of compulsions as the poor peasants. Integration is therefore tentative and rudimentary. At the same time, it will be demonstrated in Chapter Eight that individual elements within the small peasantry, cognisant of the fragility of their position, are utilizing agricultural output to buttress moves out of agriculture and into other market-oriented economic activities. It could thus be said that while adaptation to alternative feasible reproductive

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strategies is starting to occur at the level of family-households, wholesale transformation within the class has yet to occur.

The middle peasantry faces different kinds of economic constraints. Being better able to by and large meet their subsistence requirements, the middle peasantry form a part of the better-off strata of rural society. At the same time however through the essentially pre-capitalist mechanism of ground rent substantial resources are transferred out of the class. The class thus faces an economic position which is thus simultaneously sustainable yet weak. While the majority of family-households continue to pursue a reproductive strategy geared towards subsistence production, it will be demonstrated in Chapter Seven that a small number of middle peasant family-households seek to obviate insecurity by diversifying their sources of economic activity while at the same time maintaining a core of farming activity. Partially integrated into a commodity economy but locked within pre-capitalist relations of exploitation, such family-households seek to diversify in ways consistent with the self-employed, self-sufficient, pre-capitalist relationships within which they are enmeshed. They are thus attracted into a range of activities which make easily realised claims upon surpluses. Their reproductive strategy within agriculture itself may thus

be unchanged while the totality of their reproductive activities are in fact altered.

The difference between the reproductive strategies of the rich and poor and the small and middle peasants is thus one of scope. For the rich and poor peasantry transformation in productive orientation and hence reproductive strategy has occurred at the level of the class. The polarization that would be expected from agrarian class formation has occurred. For the small and middle peasantry alteration in productive activity is occurring at the level of the family-household. The process by which the transformation of reproductive strategy is generalized across the small and middle peasantry is likely to have a prolonged genesis. This is because of the fact that landlords will seek to secure existing structural arrangements in order to secure their appropriable surplus.

The specificity of peasant class differentiation in SCARP Mardan is difficult to empirically quantify. It is however possible to identify the forms of exploitation to which family-households are subjected. This in turn allows, in an over-schematic fashion, an understanding of the predominant tendencies within which family-households find themselves enmeshed. At the same time such an analysis allows the identification of the strength of capitalist relations of

production relative to pre-capitalist relations of production.

Forms of exploitation can be simplistically identified by looking at the relative importance of the labour hiring and land leasing terms in the labour-exploitation criterion. This is done in Chart 2, which defines $(H_{i(m)} - H_{o(m)})$ as (a) and $(L_{o(m)} - L_{i(m)})$ as (b). Labour hiring can be indicative of capitalist exploitation, while land leasing in this case is indicative of feudal exploitation. The relative size of the two terms and the overall sign of (a + b) therefore allows a grasp of the primary channel by which surplus is being transferred into or out of the class and the pressures to which family-households find themselves subjected.

Chart 2 demonstrates the small number of family-households within the primarily self-employed classes that are benefiting from exploitation. Some 14.6 per cent of the middle peasantry and some 4.3 per cent of the small peasantry so benefit through land and labour markets. If such benefits are sustained these family-households can be expected to orientate their reproductive strategy towards the fuller use of markets. Similarly, the continued exploitation of 21.7 per cent of the small peasantry through labour markets could be expected to lead to a transformation in reproductive strategy. The interesting cases revealed in Chart 2 are however those

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Chart 2:   Tendencies in the class locations of
           exploited family-households

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Class	Primary feature	Surplus transfer channel	% of house-holds	Remarks
Middle peasants	Self-employed	+land	4.2	b>a; (1)
		+labour	10.4	a>|b|; (2)
		-land	85.4	|b|>a; (3)
		-labour	0.0	
Small peasants	Self-employed	+land	4.3	b>a; (4)
		+labour	0.0	
		-land	73.9	|b|>a; (3)
		-labour	21.7	|a|>b; (5)
Poor peasants	Exploited	+land	0.0	
		+labour	0.0	
		-land	9.1	|b|>a; (6)
		-labour	90.9	a>b; (7)

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Notes: $a = (H_{i(m)} - (H_{o(m)})$ and $b = (L_{o(m)} - L_{i(m)})$. Positive and
negative signs refer to $(a + b)$. (1): potential proto- feudal
rich peasant; (2): potential proto-bourgeois rich peasant;
(3): surplus retention fettered by imperfect land market which
renders family-households economically insecure; (4):
potential middle peasant; (5): potential poor peasant; (6):
feudally exploited; (7): semi-proletarian.

Source: in part from Patnaik [1987].
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family-households that are insecure as a result of the

operation of the land market. It is thus the case that large

numbers of middle and small peasant family-households have

economic positions that are fettered; any potential surplus

produced will be subject to high rates of appropriation by

landlords, while it is likely that sustained shortfalls will

be compensated for by landlords seeking to maintain secure sources of surplus appropriation. This leads to a second point that emerges from Chart 2: namely, that the imperfect land market and the resultant fetters that it generates means that despite the prevalence of commodity production capitalist relations of production are not firmly embedded in the production and distribution processes within which all farmers find themselves enmeshed. In the SCARP Mardan project area it is therefore feasible to talk of an articulation of modes production.

6. Conclusion

The argument being advanced in this chapter is thus that the project area is subject to a specific, restricted form of differentiation. For family-households insinuated into capitalist reproductive strategies the imperfect land market is bypassed in favour of participation in other, more favourable, markets. Polarization into rural exploiters and rural exploited is witnessed. Differentiation is however limited due to a land market which while imperfect makes it feasible for the majority of family-households to attempt to maintain a non-capitalist reproductive strategy . Despite the maintenance of such a strategy however it would appear that the economic position of many small peasants is deteriorating and that of the middle peasants is less than secure. For a

few of the family-households of these classes productive activities indicate an alteration in reproductive strategy.

The SCARP Mardan project area is thus witnessing in aggregate the partial blockage of the processes of peasant class differentiation discussed in Chapter Two. This is not inconsistent with the discussion of that chapter but rather a specific variant on it. As was stressed, patterns of differentiation are variable given specific contexts and conjunctures.

CHAPTER SEVEN:

NON-LAND ASSETS AND INPUTS

1.   The basis of assessment

In the orthodox marxian model of agrarian capitalist development, capitalist relations of production seep down amongst peasants, fragmenting them into agrarian classes.   The previous chapter has argued however that the SCARP Mardan project area witnesses a specific and restricted form of differentiation whereby members of the numerically predominant middle and small peasantry attempt to maintain existing production objectives.   This pattern, it was argued, would be supported by landlords, who materially benefit from the lack of capitalist transformation amongst those classes.

Evidence indicates that the process of differentiation in the project area cannot be denied; however the degree of differentiation still requires investigation.   Further analysis of the forces underlying the processes identified in Chart 2 in the previous chapter allows a more sustained evaluation of the strength of emerging capitalist tendencies and provides a comprehensive assessment of the economic

characteristics of peasant classes in the project area. Such an analysis is the object of this and the following chapter.

In this chapter non-land productive assets and inputs will be defined, summarized and assessed in order to evaluate the extent to which there are class-based differences in the agrarian production process. The previous chapter argued that Sarfaraz and Platoo witnessed a polarization of buyers and sellers of labour-power. This polarization was however dulled by a large middle and small peasant strata whose economic position was simultaneously sustainable yet weak. As a result, a few family-households of the primarily self-employed were altering their reproductive strategy. If this argument holds, it would be expected that assets and inputs would reflect the relative economic strength of the four land operating classes. Rich peasants would thus possess the largest set of productive assets and would utilize inputs of a greater value. At the other end of the spectrum, poor peasants would possess the smallest set of productive assets and would utilize inputs of the smallest value. It would also be hoped that the hypothesized alteration in economic activity by some family-households in the middle and small peasantry would be reflected in a structure of asset ownership which indicated non-farm activity.

Before proceeding to analyze the data on assets and inputs, it is first necessary to comment on units of analysis. Much of the statistical data of agricultural economics uses asset, input and output data normalized to a common unit of land. While statistically correct, this procedure can be of limited validity because it can confuse economic strength with economic weakness. In order to demonstrate this proposition it is useful to recall the poor peasants of the project area. These family-households work an average operational holding of .56 of an acre--a very small holding indeed. A per acre measure of their inputs and outputs almost doubles the actual per holding inputs and output produced by the poor peasantry, thus widely overstating the absolute capacity of the family-households covered by this study. Hypothetical figures do not therefore capture whether family-households as they stand have the productive capacity to attain certain thresholds in terms of output and income. The seemingly superior figures ironically reflect a farm's inability to adequately mobilize the array of resources necessary for production and may result in constraints to production being misspecified by observers.

Rather than utilize measures which conflate strength with weakness it is therefore better to use measures which reflect the actual productive capacity of the farms and thus their capacity to utilize available resources. Per holding measures

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of inputs and output capture the extent to which family-households achieve certain absolute thresholds in their productive activities. Using family-household labour as a common unit to assess relative efficiency and productivity reduces the unit of account to a numeraire which is not just common but physically available to all family-households. Rather than looking at potential resources, these measures look at the real resources at the disposal of the family-household's members. It is these measures that will be used to make comparisons in the analysis that follows.

2. Non-land assets

The most important productive asset in the SCARP Mardan project area is of course land. In the last chapter access to land was documented. The rental value of land was presented and was shown to bear most heavily on those family-households primarily reliant on self-employment, the middle and small peasantry. As regards owned land, it can be noted that while the amount of land owned in the two villages is small a clear and positive relationship exists between ownership of land and class location. The average amount of land owned amongst the classes is: the rich peasantry, 2.94 acres; the middle peasantry, 1.26 acres; the small peasantry, .59 acres; and the poor peasantry, .54 acres. While it is possible to shadow-price the value of owned land in order to assess its worth as

an asset, such an exercise is of little practical value given the imperfect nature of the land market and the positive relationship between land ownership and class. Asset values of land will therefore not be considered in the following analysis and attention will be focused on non-land productive assets.

The non-land productive assets of the family-households of the SCARP Mardan project area can be broadly divided into three categories. First, there are farm business assets. These could include livestock, irrigation equipment, machinery and equipment, tools and implements, and structures and buildings. Data on structures and buildings has not been included in the family-household economic profiles constructed for this study. Second, there are farm processing assets. These could include equipment for the making of gur, grinding equipment and milling equipment. Finally, there are non-farm business assets. These could include a plethora of equipment related to trade, services and manufacturing, as well as selected structures and buildings.

Table 10 presents the key information regarding the average value of farm business and processing assets per family-household in Sarfaraz and Platoo. The information is arrayed by economic class. The per cent distribution of non-land farm

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Table 10:   Value of non-land assets per family-
household and per cent distribution
by type of asset and economic class

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Asset	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
All non-land farm assets					
Rs.	31910.7	11749.0	6194.0	3747.5	10671.6
%	100.0	100.0	100.0	100.0	100.0
Livestock, %	17.2	75.9	91.7	96.8	67.2
Tractors & machinery, %	79.3	12.7	0.0	1.7	23.8
Farm tools & implements, %	3.6	11.4	8.3	1.5	8.9
Non-farm assets, Rs.	0.0	3333.3	0.0	0.0	1818.2
All assets, Rs.	31910.7	15082.4	6194.0	3747.5	12489.8
Assets per FHH worker, Rs.	9839.9	2316.2	1151.0	830.1	2338.9

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Notes: FHH is family-household. Figures may not sum due to
rounding.

Source: SMDB.

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assets is also given. The first point to note about Table 10
is the quantity of assets possessed by class. Looking at all
non-land farm assets a clear positive relationship exists
between class position and assets possessed. The rich
peasants possess per holding non-land farm assets equivalent

to over 2.5 times the value of that possessed by middle
peasants, over 5 times that possessed by the small peasants,
and 8.5 times that possessed by the poor peasants. If all
non-land farm and non-farm assets are considered, the picture
does not substantially alter. The rich peasants continue to
have assets worth 2 times that possessed by the middle
peasantry, over 5 times that possessed by the small peasants,
and 8.5 times that possessed by the poor peasants.

It is important to note that when considering all assets, the
only class with non-farm assets is the middle peasantry. For
the middle peasantry, non-farm assets account for some 22 per
cent of all non-land assets. This finding may be used to
support the argument presented in Chapter Six that some middle
peasant family-households attempt to diversify out of
agricultural production and into other areas of economic
activity. The argument is further supported in Appendix Three
section 2.iv) which gives a linear regression equation
indicating a statistically significant, non-trivial and
positive relationship between non-farm assets and income for
the middle peasantry.

The quantitative figures in Table 10 do not however reveal the
fact that the non-farm assets are possessed by only three
middle peasant family-households and consist of vehicles used

for transport of both people and commodities. As in many developing countries, transportation is a high-return, low-risk activity. Such a diversification however does little to enhance the productive potential of either the family-household or the agrarian sector as a whole. It rather draws on income that has already been generated by productive family-households. It thus represents a variant of mercantile activities. At the same time, the three family-households possessing vehicles remain actively engaged in agriculture. Transport represents a substantive yet subsidiary activity. The subsidiary nature of transport when compared to the farming activities of those middle peasants engaged in it was supported by field investigators and farmers when interviewed in 1992.

Table 10 does permit evaluation of some important qualitative phenomena. Examining the composition of non-land farm assets, marked differences exist between the classes. Almost 80 per cent of all assets possessed by the rich peasantry consists of tractors and other modern machinery. No other class has an asset base so rooted in relatively advanced production techniques and technologies. For the other classes, the bulk of assets consist of livestock. For the middle peasants, just over 75 per cent of farm assets are livestock; for the small and poor peasants, over 90 per cent of all assets consist of

livestock. It is important to note that the heavy reliance on modern capital equipment found within the rich peasantry substantiates the argument put forward in Chapter Six that the class pursues agrarian accumulation through the purchase and hiring-out of capital stock.

The clearest indicator of class differentiation provided by Table 10 is the assets available to each working member of the family-household. As can be seen, working members of rich peasant family-households have at their disposal total assets worth over 4 times that available to working members of middle peasant family-households, 8.5 times that available to working members of small peasant family-households, and over 11.5 times that available to working members of poor peasant family-households. Indeed, only the rich peasant family-households have average assets per family-household worker in excess of the average for all family-households in Sarfaraz and Platoo. There is thus a class-based inequality in the productive assets available to family-household members.

Taking the findings of both Chapter Six and those presented in Table 10, the rich peasantry would appear to be heavily reliant on both labour-hiring and on machinery and power-driven equipment. This double reliance is indicative of a single process: namely, the emergence and fruition of

capitalist tendencies in agriculture. The sustenance of surpluses necessitates a diversification of assets into those capable of enhancing surplus generation. Modern assets meet such a requirement primarily because they facilitate an increase in multi-cropping and thus can boost production. Multi-cropping in turn requires faster agricultural operations, thus boosting the demand for labour. At the same time, ownership of such assets confers a degree of flexibility in agricultural operations, in that the largely time-bound and sequential nature of agricultural operations can be adequately met by resources available on-farm. Stronger farms can meet their own resource requirements prior to those of other farms, thus obviating a possible source of disruption during a critical production period. Taken together, further agrarian accumulation is promoted and capitalism in agriculture is deepened.

It can further be expected that the gains from an accumulation process rooted in the control of productive assets provides an incentive to invest and further deepen the benefits accruing to the family-household. At the same time the lack of assets available to the poorer family-households mean that they are simply unable to invest. Relative differentials within the agrarian sector could thus worsen, drawing members of poor peasant family-households into the labour market and widening

the development of capitalism in agriculture. These propositions are examined in detail in the next chapter.

3. Non-land inputs

A central facet of South Asian agrarian development since the 1960s has been the introduction of "Green Revolution" agrarian technologies. The application of technically more productive agricultural inputs represented an attempt to revolutionize agricultural production, and especially foodgrain production. The centre of the strategy was "the package": bio-chemical inputs such as high-yield seed varieties, fertilizers, pesticides, and regulated irrigation combined with mechanical inputs such as tractors, pumps and reapers (see Byres and Crow [1983]). Emphasis was placed upon the bio-chemical aspect, as it was believed to be labour absorbing, scale-neutral, land saving, and capital saving.

Bio-chemical and mechanical components of the package are however complementary (see Byres [1972], [1981]). Once adopted, the use of bio-chemical inputs narrows peak periods of work, primarily planting and harvesting, and thus generates tendential pressures to mechanization as a means of overcoming time constraints. Mechanization also reduces dependence on hired labour. Mechanization has the additional benefits of increasing cropping intensities and improving productivity

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through scale economies (see Binswanger [1978]).

Factors in the package that promote mechanization mean that while the new technology is scale neutral, it is not resource neutral. Farms with a superior resource base in terms of land and capital stock should have better access to the new technology in that they have either the collateral or the resources needed to finance purchases that form part of the package. They can also reap maximum gains from bio-technology because they can afford to mechanize. It could thus be expected that wealthier farms would be more likely to invest in the adoption of the new technologies (see Chattopadhyay [1984]), an occurrence which should heighten processes of differentiation. Recent studies confirm the impact of the new agrarian technologies on differentiation (see for example Lipton and Longhurst [1986]).

It is difficult to assess comprehensively the extent to which class divisions generate differences in the wholesale adoption of improved production inputs in the SCARP Mardan project area. Several reasons lay behind this difficulty. Some of the required information has been collated at too aggregate a level to permit input-by-input consideration. Some of the Green Revolution inputs are so widely available that no breakdown of adoption was surveyed. Some of the inputs are

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heavily subsidized, and so adoption may not be as dependent on resource availability. Some of the inputs are simply not used.

As a result of these difficulties, it is not possible to assess whether or not there is any class-based differences in seeds utilized or crops cultivated. It is however possible to hypothesize that in the project area neither seeds used or crops produced would be greatly affected by membership of a particular economic class. This is so for three reasons. First, high-yielding seed varieties are now not the exception but the rule in the region for crops for which such seeds have been developed. Second, the gains from such seeds have been depleted as insects have adapted and soils eroded. Third, most farmers concentrate production on the same three cash crops of wheat, corn and sugarcane.

Despite the difficulties the available information makes it possible to assess broadly the extent to which farms differ in their techniques of production. This can be done by looking at the relative use of tractors, machinery and equipment in agrarian production. These inputs are part of the Green Revolution "package" of technologies, and it is feasible to hypothesize that farms that adopted such "superior"

technologies would represent a more dynamic branch of production.

Table 11 summarizes per holding information on the structure of flows of inputs purchased by family-households and advanced into the production process. Note however that the category "fuels and energy" in Table 11 represent both purchased and self-produced inputs. Self-produced fuel and energy inputs are included because they represent a cost to the farm, in that they could be easily marketed in the project area.

The first point to emerge from Table 11 is that a relationship exists between class location and total inputs advanced, although there is only a slight difference in the value of total inputs advanced by the rich and middle peasantry. It should be noted however that the inputs advanced by the rich peasantry are applied to a much smaller operational area than those advanced by the middle peasantry.

The information presented in the second row of Table 11 is on irrigation and land revenue charges. These are a quite small proportion because the incidence of tax is low and irrigation is supplied through a publicly-owned canal system which supplies water to all farmers at below cost. Charges may thus not relate to scale of production. Irrigation is further dis-

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Table 11:   Value of inputs advanced per family-house-
             hold per year and structure of inputs in
             per cent

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Input	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
All inputs advanced, Rs.	10841.7	9288.4	6053.3	4789.9	7986.4
%	100.0	100.0	100.0	100.0	100.0
Irrigation & land revenue, %	2.7	4.5	3.0	0.8	3.8
Fuels & energy, %	26.2	31.7	31.6	31.4	31.2
Farm tools & implements, %	2.1	0.8	0.9	0.1	0.9
Farm machinery*, %	37.3	14.6	11.3	4.4	15.3
Livestock*, %	31.9	48.3	53.2	63.4	48.9

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Notes: * includes maintenance. Fuels and energy advanced
include market purchases and own production; other inputs are
only market purchases. Figures may not sum due to rounding.

Source: SMDB.
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cussed below. The third row of Table 11 details inputs of
fuel and energy. It might appear paradoxical that the rich
peasants utilize proportionally less energy than any other
class, especially given their asset base. There are two
explanations. First, as detailed in Table A5 of Appendix Four
the absolute amount spent the rich peasants is relatively

high. It is only Rs.110 less than the middle peasantry, who have on average substantially larger operational holdings. Second, detailed consideration of the data shows that the form of energy differs by class. Non-rich peasant classes tend to use small quantities of carbon-based products and large quantities of cash-saving but less efficient self-produced organic fuels such as crushed and dried sugarcane stalks. By comparison, rich peasants tend to use carbon-based energy, which while more expensive per unit is more efficient and thus may result in less being used per unit of output. The pro- portionally-lower energy inputs advanced by the rich peasantry may thus reflect the greater energy efficiency of purchased inputs.

At the same time, the proportionally large reliance of the middle and small peasantry on fuels and energy may reflect their lack of economic security. The bulk of energy used by the middle and small peasantry, while self-produced, is used to fuel the processing of sugarcane into gur. As detailed in the regression analysis of Appendix Three section 2.ii), the relationship between energy and output is non-trivial, positive and statistically significant for both classes. Yet the processing equipment that this energy fuels often belongs to a landlord, while for those numerous producers locked into sharecropping tenurial arrangements one half of the final

output that results from the use of the energy must be given over to the landlord. The heavy reliance of the middle and small peasantry on energy inputs may thus be to a degree indicative of the power of the landlord class to facilitate the extraction of surplus.

Turning to the fourth row of Table 11, while the rich peasants advance proportionally more on the hire of farm tools and implements than any other class the figure for all classes is low enough as to be of minor importance.

It is in Table 11's details of farm equipment and livestock that the most interesting information is contained. First, a clear relationship exists between class location and the proportion of farm equipment and machinery advanced into the production process. As a proportion of total inputs, the rich peasants advance almost twice as much modern capital equipment into their own production process as do the middle peasants, over 3 times as much as the small peasants, and over 8 times as much as the poor peasants. Second, a clear inverse relationship exists between class location and the structure of the advance of livestock into the production process. While rich peasants continue to rely fairly heavily on the use of livestock in production, they do so to less than half the extent of reliance witnessed in the poor peasantry. It is

thus the case that Table 11 demonstrates the importance of modern farm equipment to the structure of production inputs used by the rich peasantry, an importance which is not shared by the other agricultural classes.

Class-based differences in the relative importance of the form of capital purchased for use in the production process is further emphasized by the regression equations given in Appendix Three sections 2.ii) and 2.iv). A non-trivial, positive and statistically significant relationship exists between machinery hire and maintenance and income for the rich peasantry. Amongst the other three classes, a positive and statistically significant relationship exists between livestock hire and maintenance and output, although in the case of the middle peasantry the coefficient is trivial.

It should also be noted that the form of the modern farm inputs advanced will differ between the classes. The rich peasants' ownership of such equipment means that the bulk of cash expenses incurred will be on maintaining the equipment in running order. The other classes' lack of ownership means that the bulk of cash expenses incurred will be on hiring-in the equipment.

Two key inputs in agricultural production and agricultural

productivity are capital and water. Table 12 continues the analysis of Table 11 by examining capital utilization in more detail, while Table 13 examines access to water.

The use of capital in farm production not only includes the hiring of modern machinery, livestock and the maintenance necessary for both to be advanced into the production process. It should also include the fact that the machinery and livestock owned by a family-household which is used on-farm could alternatively be sold on the market. Such use thus has an implicit cost which should be taken into account when assessing the value of all inputs utilized. Table 12 presents the information concerning the cost of hiring-in and maintaining tools, machinery and livestock which forms the basis of the percentages given in Table 11. To this is added a shadow cost: the payment which would have been necessary if the machinery and livestock owned by the farm and which was not costed by it while being used in the production process had instead been hired-in. The monetary cost associated with the use of possessed machinery and livestock is calculated on the basis of the market rates for machinery hire and livestock rental. Taken together, Table 12 thus summarizes total capital utilization per holding.

In Table 12 a clear relationship is demonstrated between class

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Table 12: Capital utilization per holding
           per year by class, in rupees

Form	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Farm tools & machinery*	4275	1436	739	211	1294
Livestock*	3464	4484	3219	3036	3903
Total	7739	5920	3958	3247	5197
Shadow cost of own capital	2275	2286	929	212	1671
Total capital	10013	8206	4887	3459	6868
Capital utilization per FHH worker	3123.7	1354.4	916.2	701.9	1278.9

Notes: * includes maintenance. FHH is family-household.

Source: SMDB.
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location and capital utilization. This is seen in total capital utilized, where the rich peasants' use of capital exceeds that of the middle peasantry by over 20 per cent, the small peasantry by over 100 per cent, and the poor peasantry by almost 300 per cent. It bears repeating that the rich peasants operate a substantially smaller holding than the middle peasants. It should also be re-emphasized that the structure of capital utilized differs by class, with the rich

peasants utilizing superior capital stock.

Table 12 contains an even stronger indicator of a differ-
entiated agrarian structure and the economic strength of the
rich peasantry than total capital utilized in its summary of
capital utilization per family-household worker. This measure
indicates that the capital actually mobilized on behalf of a
working member of the rich peasantry is over double that
available to a member of the middle peasantry, over 3 times
that available to a member of the small peasantry, and over 4
times that available to a member of the poor peasantry. These
differences in capital actually available for production
purposes are bound to affect the relative economic position of
the agrarian classes.

After land the most important input in agricultural production
is water. Water is the "leading input" in that farm
management surveys consistently show that reliable water
supplies correlate with economic security (Boyce [1986]).
Such is especially the case with water-sensitive high-yielding
seed varieties. It is thus not surprising then that a key
purpose of SCARP Mardan is to improve water delivery. At the
same time however it is difficult to make a class-based
assessment of access to water in the project area because of
the publicly-owned canal system. As a result the only

information concerning access to water in the SCARP Mardan database regards the location of farms on watercourses. Location on watercourses does however affect access to water. Prior use of water by farmers further up the watercourse and leakage depletes the supply of water available to farmers further down the watercourse.

Table 13 presents a class-based proportional distribution of family-households' location on the watercourse. The table indicates that the rich and the poor peasants have on average the best location on the watercourse, while the middle and small peasants tend to have inferior position on watercourses. Given the already demonstrated economic strength of the rich peasants, their ability to secure better access to water is hardly surprising; it only serves to reinforce an emerging picture of a strong and dynamic class. What is more surprising is the position of the poor peasants, which is much more favourable than might have been expected. This can be explained by reference to tenurial status. As has been noted, the poor peasants tend to be landowning operators to a far greater degree than other classes. It was argued in Chapter Six that this is the result of an exit by poor peasants from the land rental market. It is not surprising that those that have been able to retain holdings have sought to retain

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Table 13: Distribution of family-households' location
on watercourse by class, in per cent

Location	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Front	60.0	23.4	15.9	55.5	27.1
Middle	40.0	57.4	56.8	33.3	53.6
Tail	0.0	27.3	27.3	11.1	19.3

Source: SMDB.

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holdings with the best access to water. This makes the
holding a superior asset, not an unimportant consideration
given the vulnerable economic position of the poor peasants.
It also means that the land has a better capacity to provide
subsistence-supporting output, which is also not an
unimportant consideration. Finally, it should be noted that
the inferior access to water available to the middle and small
peasants will make production less secure as compared to the
other classes.

In addition to inputs advanced as a consequence of the
decision to produce, inputs are also advanced during the
course of the production process. These current inputs could
be considered akin to working capital in a manufacturing
process, although the analogy is flawed. This is because in

considering current inputs it is necessary to assess inputs that are both purchased and self-produced in order to obtain a complete picture of inputs utilized.

Table 14 details purchased and self-produced current inputs per holding and per family-household worker. The table serves to reinforce the picture that is emerging of qualitative differences between holdings which are attributable to class location. Considering first soil inputs, these include seeds and fertilizers. Pesticides are not used in the project area. In Table 14, it is apparent that per holding the largest expenditure on soil inputs is borne by the middle peasantry. This reflects not only the size of the holdings but also qualitative differences in fertilizers applied to holdings. The bulk of rich peasants' fertilizer inputs consist of urea and DAP, inorganic fertilizers which in purely commercial terms are far more efficient than organic fertilizers. Such is not the case with the other peasant classes. While they may purchase quantities of inorganic fertilizers, the other classes are much more reliant on organic fertilizers which are less efficient per unit of output and thus are often used in greater quantity per unit of output. In such circumstances the use of organic fertilizers is maintained precisely because they are self-produced and therefore require less of a cash outlay. Differences in fertilizer inputs at the level of the

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Table 14:   Current inputs per holding and per
             worker per year by class, in rupees

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	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Input					
Soil inputs					
per farm	2581.5	3557.4	1701.5	762.0	2656.4
per FHH worker	780.2	577.8	346.9	167.5	480.0
Transport & processing					
per farm	678.0	666.5	245.4	159.5	493.8
per FHH worker	206.9	108.9	45.2	37.5	90.0
Wage payments					
per farm	3689.7	2427.0	572.4	177.0	1747.1
per FHH worker	1343.8	390.4	110.7	46.5	339.3

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Note: Soil inputs and transport and processing includes
market purchases and own production. FHH is family-household.

Source: SMDB.
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farm can thus reflect differences in input efficiency. The
lack of clarity between soil inputs and class location is
further obviated if soil inputs are evaluated at the level of
those quantities available to family-household workers. On
this measure, the picture is different, with a clear positive
relationship between class location and inputs utilized. It
is thus the case that for the rich peasants soil inputs
mobilized on behalf of family-household workers are both
greater in size and superior in economic efficiency.

Turning next to transport and processing, there is a relationship between class location and inputs used at the level of the farm, although the relationship is admittedly weak between the rich peasants and the middle peasants. The picture is much stronger if transport and processing inputs are examined per family-household worker. At this level, the rich peasants use almost double the inputs of the middle peasantry, almost 5 times that of the small peasantry, and almost 6 times that of the poor peasantry.

The final current input to be considered is wage payments. Here it is not surprising that Table 14 reveals clear differences between classes in terms of wage payments, because class status is defined in relation to hired-in labour. It is however worth commenting on the extent of the differences between classes at the level of the family-household worker. The figures indicate that the rich peasants pay out 3 times as much as the middle peasants, 12 times as much as the small peasants, and 26 times as much as the poor peasants. Given the fact that wage payments are uniform, rich peasants either hire more labourers or labour for longer periods than do the other classes. Wage payments at this level represent additional labour mobilized, to be deployed at the behest of family-household workers. The production effects of such quantitative differences could be expected to be large. It

should however be noted that some of these differences might be reduced through the use of exchange labour. In order to assess this, detailed information on the non-capitalist relations of prestation in the project area would be necessary. Unfortunately such information is not available. The introduction of exchange labour would however merely serve to reinforce the fact that the different classes utilize qualitatively different contracts in their mobilization of non-family-household labour. The rich peasants are more thoroughly capitalist in orientation, using a labour market mediated through the wage relation. The other classes may rely more heavily on pre-capitalist forms to mobilize additional labour into the production process.

Table 15 brings together the various strands of the discussion so far by presenting both all non-land inputs used per holding per year and the structure of inputs. Table 15 reiterates the greater reliance on modern capital equipment and waged labour in the production process of the rich peasantry when compared to the other peasant classes, who tend to be much more reliant on livestock. The inverted U-shaped relationship between soil inputs and irrigation and class location is to some extent explained by the qualitatively superior nature of the soil inputs available to the rich peasantry and the watercourse location of the poor peasantry. The inverse relationship in

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Table 15:   Total non-land inputs per holding per
             year in rupees and input structure in
             per cent

Input	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Total inputs	20065.4	18225.1	9502.1	6100.6	14555.1
%	100.0	100.0	100.0	100.0	100.0
Soil inputs & irrigation,%	14.2	21.8	19.8	13.1	20.3
Capital, %	21.3	7.9	7.8	3.5	8.9
Livestock, %	17.3	24.6	33.9	49.8	26.8
Value of own capital,%	11.3	12.5	9.8	3.5	11.5
Transport, processing & energy, %	17.5	19.8	22.7	27.3	20.5
Wages, %	18.4	13.3	6.0	2.9	12.0
Inputs per FHH worker, Rs.	6551.0	2995.8	1807.8	1292.8	2714.8
Purchased inputs as % of total	35.4	24.4	15.1	6.8	20.5

Notes: Inputs include market purchases and own produc-
tion. FHH is family-household. Figures may not sum due to
rounding.

Source: SMDB.
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the structure of transport, processing and energy inputs and

class location may be similarly reflective of qualitative

differences in inputs. Taking these points together results

in a positive relationship between class location and total inputs utilized in the production process. It results in an even clearer positive relationship between class location and inputs utilized per family-household worker, starkly revealing the quantitative differences in the resources at the disposal of family-household workers and thus the differences in family-household members' command over production possibilities. The table also summarizes the limited data available on the relative importance of purchased production inputs and reveals a positive relationship between class location and market reliance for inputs. It should be noted however that market purchases of inputs are remarkably low given the extent of the commodity economy in the project area.

4. Assets and inputs by acreage groups

Due to space constraints it is proposed to only highlight the areas of difficulty which arise if assets and inputs are considered on the basis of an acreage-based classification. Table 16 summarizes key information concerning acreage-based assets and inputs on a per holding and per family-household worker basis.

Turning first to assets, it is apparent that the orthodox grouping has generated a difficulty. If acreage was a classification method which captured economic strength, it

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Table 16: Summary of assets and inputs per holding
          per year by acreage groups, in rupees

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	.01- <1	1- <2.5	2.5- <5	5- <7.5	7.5- <12.5	12.5- 25	Average
All assets	5309	7784	7780	22626	16388	18666	12490
Farm Assets	5309	7784	7800	18415	10674	18666	10672
Machinery (%)	54 (1)	3890 (50)	30 (.4)	8018 (44)	21 (.2)	0 (0)	2545 (24)
Assets/ FHH worker	1162	1196	1876	4904	2045	2470	2339
All inputs	5628	7397	11871	18045	27505	27306	14555
Capital (%)	162 (3)	398 (5)	1052 (9)	2430 (14)	1924 (7)	2624 (10)	1294 (9)
Capital used/FHH worker	757	693	1239	1888	1704	1433	1279
Inputs/FHH worker	1296	1655	2694	3668	3949	3349	2715

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Note: Input values include market purchases and own
provision. FHH is family-household.

Source: SMDB.
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would be reasonable to expect non-land assets to increase with

acreage operated. In Sarfaraz and Platoo such is not the

case. The 5 to less than 7.5 acre grouping has the largest

total non-land asset base. If consideration is focused purely

on farm assets, the 5 to less than 7.5 acre grouping has an

asset base substantially in excess of the next higher acreage group and almost equivalent to the largest acreage group. This inconsistency is all the clearer if a key asset reflective of economic strength, namely modern machinery, is considered. It is apparent from Table 16 that no positive relationship exists between size of operational holding and use of machinery. The only relationship present takes an M-shape, as machinery possession is concentrated in the 1 to less than 2.5 and 5 to less than 7.5 acre groups. The largest acreage group possesses no machinery at all.

The inconsistency between non-land assets and acreage groups is only reinforced if assets per worker are calculated, as is presented in Table 16. A positive relationship between assets per family-household worker and acreage exists up to the 5 to less than 7.5 acre group. The relationship is negative for the next acreage group, and positive for the highest acreage group. It is thus the case that the 5 to less than 7.5 acre group possesses more non-land assets per family-household worker than any other acreage group. Taken as a whole, it is apparent that no positive relationship exists between size of operational holding and asset base.

Turning to inputs, it is apparent that Table 16 presents a mainly positive relationship between total inputs used and

size of holding.   This is however slightly marred by an
inconsistency, namely that the 7.5 to less than 12.5 acre
group uses more inputs per holding than the 12.5 to 25 acre
group.   This inconsistency is exacerbated if attention is
given to the composition of inputs.   The structure of capital
utilized takes an N-shape, indicating that the use of capital
in the 2.5 to less than 5 and 5 to less than 7.5 acre groups
proportionally exceeds that of the 7.5 to less than 12.5 acre
group.   It can also be noted that the use of capital in the 5
to less than 7.5 acre group is proportionally greater than
that in the 12.5 to 25 acre group.

The utilization of capital per worker is similarly inconsis-
tent, largely taking the form of an inverted U-shape.   The
capital used per worker in the 5 to less than 7.5 acre group
is the highest of all the groups, and the capital used per
worker in the 7.5 to less than 12.5 acre group exceeds that of
the highest acreage group.   Finally, the relationship between
acreage groups and total inputs per family-household worker is
marred by the fact that both the 5 to less than 7.5 and 7.5 to
less than 12.5 acre groups mobilize more inputs on behalf of
the family-household workforce than the 12.5 to 25 acre group.

The myriad inconsistencies found in Table 16 make it apparent
that grouping family-households on the basis of acreage

provides no clear understanding of asset structure and input utilization. The reason for this is clear: acreage groups conflate family-households of differing purpose, thus differing organization, and ultimately differing techniques. Such conflation can lead to an underestimation or indeed dismissal of peasant class differentiation. It is only by utilizing a method which moves beyond appearances to grasp the underlying reality of class formation that an understanding of the dynamics of agrarian structure can be captured.

5. Conclusion

Assessing the points raised in this chapter, it seems reasonable to state that qualitative and quantitative factors together indicate class-determined differences in production techniques and technologies. The rich peasants are certainly not alone in adopting improved production techniques, but they have done so to a much greater extent than any other class. Theory would indicate that this is so because the generation of resources surplus to subsistence requirements has facilitated the acquisition of superior production technologies and techniques, which in turn contribute to sustained generation of agricultural surpluses. Greater utilization of improved production techniques has both permitted and facilitated a transformation in the purpose of production. The rich peasants no longer fall under the sway

of production for subsistence but are producing for the purpose of accumulation. If such an argument holds, then it is reasonable to expect a relationship between the outcome of production and class location. More specifically, it would be expected that the rich peasants would demonstrate a superior outcome in terms of actual production. That expectation is the concern of the following chapter.

CHAPTER EIGHT:

OUTPUT, INCOME AND EXPENDITURE IN SCARP MARDAN

1. The disposal of farm output

In Chapter One it was argued that agriculture has the capacity
to ease constraints on industrialization by producing
resources surplus to its own requirements. Given such a
capacity it is important to know what type of farm enterprise
is most efficient in its use of resources, because such an
enterprise will disproportionately contribute to the
generation of resources surplus to the sector's requirements.

The importance of understanding the issue of farm efficiency
crystallized with the recognition of the "inverse relation-
ship". Farm management studies in India and elsewhere showed
clear evidence of an inverse relationship between size of
holding and output per unit of land, based upon the
circumstances under which labour was utilized (see Bharadwaj
[1974]; Sen [1981]). Evidence had also shown that smaller
holdings market a larger portion of their output and thus
relative to larger holdings generate a bigger quantity of
resources for non-farm uses (see Warriner [1969]; Khurso

[1973]; Byres [1974]). It is therefore often argued on the grounds of economic efficiency and of social justice that the case for land reform in agriculture in favour of small cultivators is clear.

Several qualifications must however be made to this argument. Firstly, the inverse relationship can be broken through technological change in agriculture which may permit the continual realisation of economies of scale (see Patnaik [1979]). Secondly, while smaller farmers may market a larger proportion of their output they do not necessarily generate the greatest net marketable surplus.

This point is important because the net marketable surplus provides real wage, input and financial resources for development. This surplus can be defined as the total amount of agricultural output marketed by cultivating family-households plus marketed in-kind wage and/or rent receipts received minus any buy-back that occurs (Byres [1974]). For many smaller farmers the marketing of output represents short-term distress sales necessary to meet immediate consumption needs and is thus subject to future buy-back. They are therefore not marketing surplus and it is thus inadequate to simply assert the superior efficiency of small farmers.

These qualifications mean that in attempting to understand the potential for agriculture to contribute resources for development in a given region it is important to recognize and specify the different contribution of the different classes of family-household farm enterprises to the generation of the agricultural surplus. Unfortunately, while the net marketable surplus as defined above is quantifiable, the SCARP Mardan data does not include the proportion of in-kind wages, in-kind rents and retained output that is marketed and the amount that is subject to buy-back. Alternative methods of assessing surpluses generated are therefore required and an alternative method based upon returns to labour is outlined in the next section.

It is useful to start an analysis of farm efficiency by examining the disposal of crop output since the precondition of a marketable surplus is an orientation towards the market itself. The arguments of the previous chapter suggest that the highest degree of market orientation may be found within the rich peasantry. An accurate assessment of the market orientation of the classes requires data on the proportion of any retained output which is destined for future sales and, as explained above, this information is not available in the SCARP Mardan data.

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A second best solution using available data is however possible. Crop output can be used for home consumption, production inputs, or market sales. The relative importance of these three possibilities in the structure of the disposal of output can be expected to reflect to a degree the market orientation of family-households.

Table 17 outlines the disposal of gross output per holding in Sarfaraz and Platoo, analyzed on a class basis. Turning first to outputs utilized as on-farm inputs, all classes exhibit a marked tendency to use output as inputs in production. For example, fodder crops are commonly grown and are used to feed the family-household's livestock. There is however an negative relationship between class location and the proportional use of output as inputs. The poor peasants use over 38 per cent of output as inputs, while the rich peasants use just over 21 per cent of output as inputs. There is thus a class-based difference in the degree of reliance on self-produced inputs, with the rich peasants being most dependent on the market acquisition of inputs and the poor peasants being the least dependent on market acquisition of inputs.

Looking next at gross output used for family-household consumption, as expected an inverse relationship again exists between class location and reliance on self-production. Just

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Table 17:   Disposal of crop and livestock output
             per holding per year

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Output	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Gross value					
Rs.	31252.6	31707.9	14225.1	9035.2	24273.4
%	100.0	100.0	100.0	100.0	100.0
Rents, %	1.6	6.3	3.1	0.0	5.1
Inputs, %	21.5	22.4	30.8	38.6	24.4
Wages, %	3.8	3.7	1.8	1.5	3.3
Marketed, %	37.9	28.7	20.3	27.3	28.2
Consumption,%	14.6	16.6	22.9	23.5	17.7
Retained, %	20.6	22.3	21.1	9.0	21.3
Output per acre, Rs.	7333.8	5170.1	7509.4	20325.2	7823.4
Output per FHH worker, Rs.	10300.3	5236.3	2702.4	1919.2	4504.7

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Note: FHH is family-household. Figures may not sum due
to rounding.

Source: SMDB.
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over 14 per cent of the gross output of the rich peasantry is
used to sustain family-household consumption, whereas just
over 23 per cent of gross output of the poor peasantry is used
to sustain family-household consumption. The rich peasantry
is thus proportionally less self-reliant on its own production
than the poor peasantry, although as demonstrated in Table A7

of Appendix Four the absolute value of the rich peasantry's self-production is more than twice that of the poor peasantry. It can also be noted that both the proportional difference between the rich and middle peasantry and the proportional difference between the small and poor peasantry is not great.

Finally, examining the gross output that is immediately marketed it is apparent that the rich peasants are easily the most reliant on the marketing of output. Almost 38 per cent of gross output goes into the market. This is as would be expected of a dynamic, market-oriented class pursuing agrarian accumulation. It must however be noted that a uniformly positive relationship between marketed output and class location does not exist because the small peasantry rather than the poor markets the smallest proportion of their gross output. This is unexpected. It can be hypothesized that the poor peasants market more due to both distress sales and in order to maintain the cash income necessary for their market-oriented reproduction strategy. Detailed consideration of the data and discussions with farmers and field investigators confirm the use of distress sales by the poor peasantry, usually in the form of a sale of a standing crop prior to harvest. It is of interest to note that sales of this type are specifically prohibited in Islam.

This inconsistency aside, Table 17 does appear to offer some support to the position that there is a positive association between class location and market orientation. Such a positive association does not obviate the previous argument that the rich and poor peasantry are the peasant classes most integrated into the capitalist mode of production. The higher proportional reliance of the poor peasantry on self-production is due to their absolute output levels being the lowest of the agrarian classes. Low levels of output in turn necessitates use of product and labour markets in order to sustain family-household reproduction. This is discussed in more detail below.

The marked market orientation of the rich peasantry is also the implication of the regression analysis outlined in Appendix Three section 2.iii). The log linear regressions presented there indicate a statistically significant, non-trivial and positive relationship between the dependent variable, marketed output, and the independent variable, total output, for both the rich and middle peasant classes. A similar result is presented in Appendix Three section 2.iv) for income per family-household worker and marketed output per family-household worker. What is of particular interest however is the size of the regression coefficients. In both cases the rich peasantry produce a regression coefficient more

than twice the size of that of the middle peasantry, indicating both the extent to which the output of the rich peasantry is destined for the market and the importance of product markets in the creation of income for the class.

Before turning to look at productivity measures it is useful to summarize the ways in which the remaining output is disposed. It is not surprising that Table 17 demonstrates that the middle and small peasants utilize more output for rental payments than do other classes. It must however be admitted that such payments form a small proportion of gross output, comprising at most 6.3 per cent of payments made by the middle peasantry. This low figure can be explained in two related ways. First, some rents may have been misreported and placed in the retained or the marketed category. This would occur because of the second reason, the sharecropping arrangements in the project area. Sharecroppers have contracts which while of the same general form may differ in their specifics. One specific form of contract which is common in the project area concerns the disposal of sugarcane destined for milling. In this contract, the producer delivers the crop to the mill on behalf of both parties. The producer receives a chit detailing the value of the crop, which is returned to the landlord, who then pays the producer their share in cash after deducting expenses. Output is thus not

directly disposed of as rental payments and could be reported as marketed.

Wages comprise a small proportion of the total usage of gross output, reflecting both reliance on cash wages and on exchange labour rather than payments in-kind. Indeed, given the large difference in labour hiring between the rich and middle peasantry detailed in the last chapter, the proportion of output paid out as wages by the middle peasantry could be taken to be indicative of less capitalist wage relations amongst the middle peasantry.

Finally, examining retained output it is apparent that three of the classes retain about a fifth of gross output, while the poor peasantry retains about a tenth for future disposal. The lower figure for the poor peasantry is probably the result of lower absolute levels of output and the resulting constraint that is placed upon the option of retention.

Table 17 gives three measures of productivity: gross output per holding, gross output per acre, and gross output per family-household worker. Examining the gross value of crop and livestock output, Table 17 shows that the middle peasantry is slightly more productive per holding than the rich peasantry. Both the rich and middle peasantry are more than

twice as productive per holding as compared to the small peasantry, and three times as productive as compared to the poor peasantry. Of course, such findings are not surprising in that the rich and middle peasantry have larger holdings than the small and poor peasantry. What is somewhat surprising is the fact that the rich peasantry holdings are almost as productive as the middle peasantry holdings despite having 33 per cent less land. It should however be noted that the gross value of the output of the holding is not a good measure of productivity because it does not reflect the actual resources available to family-households at the end of the production cycle. In order to make such an assessment a net measure of output is required. This is given in the next section.

As noted in the last chapter, per acre measures of productivity may produce results which while impressive in relative terms are physically unattainable given the structure of the agrarian sector. The efficacy of such measures may be questioned; nonetheless, they are addressed in this analysis because they are the common yardstick of assessing agricultural performance. Recalling that the middle peasantry has the largest average size of operational holding, if attention is given to output per acre it is apparent that the project data supports the existence of an inverse relationship between

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farm size and output. The poor peasants have an average operational holding of .56 of an acre and are the most productive per acre, generating an output of over Rs.20000 per acre. Following the poor peasants in terms of both average size of operational holding and output per acre are the small peasants, then the rich peasants, and finally the middle peasants with an output of only Rs.5170 per acre being produced on an average operational holding of over 6 acres. With such a finding it could easily be argued that the smaller holdings in the project area are more efficient. It can be noted that the method of analysis of the SCARP Mardan evaluation team did not produce such a result.

Such an argument has to be carefully considered. First, as noted, these are gross figures. Second, if attention is given to the productivity of the employed family-household workforce rather than a fixed asset that is not freely available such as land, it is apparent that the rich peasants are almost twice as productive as the middle peasants, almost four times as productive as the small peasants, and over five times as productive as the poor peasants. It therefore cannot be confidently asserted that the poor are more productive than the rich; different measures generate different results. The contention here is that output per family-household worker is a superior productivity measure because it offers a measure of

actually produced output rather than theoretically possible levels of production.

2. Net output and surplus

The discussion so far has highlighted the need for a consideration of measures of net output. Two measures of net output are presented here. Both are variants of those proposed by Patnaik (Patnaik [1987]). The first is net farm labour output, which is defined as gross output less the value of all self-provided and market-purchased inputs except for land and family-household labour. Net farm labour output thus denotes the returns to the variable inputs which are physically necessary for production to proceed. It does not represent what the family-household actually receives but rather what the family-household would have received prior to claims being made upon output as a result of the ownership of property. Value added is not used because it does not take into account the self-provision of inputs, which has an opportunity cost.

The second concept used is net farm disposable output, which is defined as net farm labour output less rents. Rents are not physically necessary for production to proceed but represent deductions from already produced output which are made as a result of the non-familial ownership of property.

The concepts of farm labour output and farm disposable output also allow purely notional "surplus" and "deficit" figures to be computed. These notional figures are not equivalent to net marketable surplus but rather represent an alternative conception of surplus which is based upon an assessment of whether the net physical return to family-household labour is positive or negative when evaluated against the market-determined value of the labour expended. These figures are computed by imputing the value of family-household labour applied in production and deducting such imputed values from farm labour output and farm disposable output. The prevailing wage rate of Rs.10 per 6 hour day is used to impute the value of family-household labour.

It is recognized that this method may be considered contentious, in that a more appropriate method might be to shadow price the opportunity cost of labour. Yet shadow prices are rarely faced by individuals when evaluating the utility of entering the waged labour force. It is the actual wage rate that affects the real choices of agents and it is therefore reasonable to use the prevailing wage rate to proxy the value of family-household labour. At the same time, it is legitimate to enquire as to whether the returns to the performance of family-household labour on the farm compare favourably with the prevailing rate at which labour is sold.

Imputing family-household labour at the prevailing wage rate allows such a comparison.

The theoretical analysis developed so far predicts a positive association between class location and net output, indicating class-based differences in economic strength. Table 18 gives net farm output per holding per year arranged by economic class. The gross value of output is derived from Table 17, while the value of inputs is derived from Table 15 in Chapter Seven.

Examining net farm labour output per holding, it is apparent that the middle peasantry is the more productive class, producing an output of almost Rs.13500. The rich peasants are less productive, the small peasants less productive still, and the poor peasants the least productive in terms of net output. This appears to contradict the expectation of a positive association. It is however important to recall the argument that substantial surplus is appropriated through ground rent in the project area. It is therefore important to make the deductions of property-based claims on farm labour output before assessing net output.

Examining such net farm disposable output, it is apparent that per holding the rich peasants are some 38 per cent more

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Table 18:   Net farm output per holding
             per year in rupees

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Output	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Gross value	31252.6	31707.9	14225.1	9035.2	24273.4
All inputs	20065.4	18225.1	9502.1	6100.5	14555.1
Net farm la-bour output	11187.2	13482.8	4723.0	2934.7	9718.3
Rents	3589.8	7976.2	2497.0	311.0	5286.9
Net farm disposable output	7597.4	5506.6	2226.0	2623.7	4431.4
Rent as % of farm labour output	32.1	59.2	52.9	10.6	54.4

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Source: SMDB.
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productive than the middle peasantry despite having an operational holding some 33 per cent smaller. This is a clear sign of the economic strength of the rich peasantry when compared to the other agrarian classes.

Another interesting point to emerge from Table 18 is that the net farm disposable output of the poor peasantry exceeds that of the small peasantry. Such a counter-intuitive result is explained by the sheer magnitude of the rents extracted from the small peasantry. Some 53 per cent of farm labour output

is deducted as rent, a heavy magnitude for the class to bear and indicative of the economic fragility engendered by the self-sufficient reproductive strategy pursued by the class. Such a burden is not borne by the poor peasants, as they are primarily landowning operators and they are also more reliant on the labour market to maintain subsistence requirements. Looking at the small and middle peasants together the extent of the surplus appropriation discussed in Chapter Six is apparent. Both classes lose over one-half of net output as rent. The middle peasants are however slightly better able to cushion such appropriation through the maintenance of larger operational holdings and thus larger absolute output levels.

Table 19 imputes the value of family-household labour deployed in agricultural production and subtracts that from the net farm labour output and net farm disposable output calculated in Table 18. The resulting figures for notional labour surplus and deficit are given per holding, per worker, and, in the case of net farm disposable surplus, per acre.

Examining first net farm labour surplus, a measure of the returns to family-household labour prior to claims being made on the family-household as a result of property ownership, the economic strength of the rich peasants per holding and per worker is apparent. Despite having smaller operational

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Table 19:   Surpluses from agricultural production
               per year in rupees

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	Rich	Middle	Small	Poor	Average
Type	peasant	peasant	peasant	peasant	
Farm labour surplus					
-per holding	7605.2	5774.9	-1581.5	-609.5	3178.9
-per worker	2796.2	993.1	-182.6	-116.8	670.0
Farm disposable surplus					
-per holding	4015.4	-2201.3	-4078.6	-920.5	-2108.0
-per acre	804.9	-423.5	-1541.9	-725.8	-669.9
-per worker	1866.7	-333.2	-642.0	-203.6	-247.7

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Notes: Minus signs indicate deficits.   Farm labour
surplus is net farm labour output less imputed value of
family-household labour used in production. Farm disposable
surplus is net farm disposable output less imputed value of
family-household labour used in production. Per worker is per
family-household worker.

Source: SMDB.
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holdings the rich peasants generate 32 per cent more surplus
per holding than do the middle peasants, the only other class
to be in surplus.   Per family-household worker, the rich
peasants are 300 per cent more productive than the middle
peasants.   Looking at the two classes in deficit in their
relative returns to family-household labour employed, the most
striking result is the particularly weak position of the small
peasantry. Given the method of computation, this must reflect
the fact that the net farm labour output produced by the small

peasantry is obtained with much higher applications of family-household labour than that of the poor peasantry. This in turn reflects the lower degree of reliance of the poor peasantry on farming as their primary source of subsistence. Such a finding is reflected in the net farm labour deficit per family-household worker, showing as it does a higher level of deficit for the small peasants when compared to the poor peasants. Taken together, it appears that the small peasantry is in a particularly constrained position. This finding is returned to below.

Deducting rents from the net farm labour surplus gives the net farm disposable surplus, a measure of the relative returns to family-household labour after claims upon output are made. The figures for net farm disposable surplus reinforce the assertion made concerning the economic strength of the rich peasantry. The rich peasantry are the only class in surplus, whether it be per holding, per acre or per family-household worker. It is further the case that their productivity is more than substantially superior to the other classes. Per family-household worker net farm disposable surplus for the rich peasantry amounts to Rs.1867; the next best class is the poor peasantry, with a deficit of Rs.204 per worker. Per acre net farm disposable surplus amounts to Rs.805; the next best class is the middle peasantry, with a deficit of Rs.424 per

acre. The only class to obtain a positive relative return on their family-household labour is thus the rich peasantry. It is of interest to note that the form of the relationship between class and net farm disposable surplus takes a U-shape. Per holding and per family-household worker, the poor peasantry is in less of a deficit position than the middle and small peasantry. This counter-intuitive result is of course the result of ground rent which the middle and small peasantry pays but which the poor peasantry by and large does not have to pay, having bypassed the land rental market in favour of participation in the labour market.

Table 19 permits four general observations to be made about the pattern of class relations in the villages of Sarfaraz and Platoo. First, there is a clear relationship between class position and the measure of surplus that has been utilized. The relationship is not an inverse one, as some might argue, but is rather U-shaped. Second, and following from the first, the rich peasantry is far and away the most productive class in terms of the relative returns to the family-household labour employed. This contradicts expectations arrived at from the inverse relationship. Third, the reason why the relationship between class location and surplus generation is not positive is because of the pressures of surplus appropriation and class domination that are brought to bear on

the middle and small peasantry. The middle peasants have however a larger operational holding, permitting greater absolute output and thus a cushion against tendential pressures to transform reproductive strategy into a more market-dominated one. It would appear that the greatest pressures rest upon the small peasantry, and while it could thus be expected that the fragmentation of the primarily self-employed predicted in the theory of peasant class differentiation might first be witnessed in the small peasantry, such a process would be cushioned by the flexibility of family-households to adapt physical consumption to economic circumstances. Lastly, it would appear that the poor peasantry may be somewhat more secure in their economic position than the small peasantry. This seemingly paradoxical result emerges from their lower degree of reliance on agricultural production as their core source of economic activity. By being more diversified in their reproductive strategy the poor peasantry has a slightly greater degree of economic security.

The findings of this section contradict much of orthodox agricultural economics, but support the analysis advanced by marxian economists. The labour-exploitation criterion extracted the farms with the highest intensity of input application, and particularly the use of modern machinery. Those same farms are now demonstrated to generate the highest

relative return to family-household labour expenditure in the farming enterprises of Sarfaraz and Platoo. This is not unexpected; rich peasants generate superior returns to family-household labour, invest in modern inputs, and by so doing generate even more surpluses. Agrarian accumulation is thus fostered.

The presence of accumulation further delineates the superiority of a class-based analysis when compared to a neo-populist approach. As argued in Chapter Two and supported through the data contained in Table 19, primarily self-employed farms producing to attain subsistence do not need a continual generation of surpluses. They only need to be able to produce some surpluses to see them through poor years. On the other hand, agrarian accumulation by dynamic market-oriented family-households necessitates the continual generation of surpluses, and this requires efficiency improvements. Efficiency improvements requires the adoption of superior production technologies, which was demonstrated in the last chapter. As a result, family-households do not operate under the same conditions of production. It is therefore the case that contrary to the neo-populist analysis, peasant farms are not all the same; they operate with different production functions. The generation of surpluses promotes an alteration in the family-household production

function in order to grasp the economies of scale made possible with new production technologies. It is because the farms operate with different production functions that the relative returns to family-household labour expenditure differ across peasant farms. It is because of differing relative returns to family-household labour expenditure that peasant classes differentiate.

It can be recalled from Chapter Four that Lenin argued the extent of labour hiring, the extent of possession of means of production, and the generation of surpluses are the key variables which delineate agrarian classes. Using the extent of labour hiring relative to self-employment to initially classify family-households, it is clear that a positive association exists between both the extent of possession of the means of production and the generation of surpluses. It can be thus argued that the labour-exploitation criterion is an incisive method for capturing the essence of class status.

If the argument advanced is correct it would be expected that differences in investment could be witnessed according to class location. This is because the dynamic, accumulation-oriented family-households would be expected to reinvest their surpluses back into agricultural production as a means of boosting efficiency, promoting the generation of more

surpluses, and thus fostering capital accumulation. Table 20 gives the investment per holding per year of the four classes. Investment is defined as the acquisition of an asset which generates a flow of income over time. It is apparent from Table 20 that a positive association exists between total investment and class location. The association is even sharper between farm investment and class location; the rich peasants invest per holding over Rs.15500 per year, some 50 per cent more than the middle peasants and far and away above the farm investment of the small and poor peasants.

The importance of farm investment to the rich peasantry is further stressed in the regression analysis detailed in Appendix Three section 2.v). Taking farm investment to be dependent upon total spending, the resulting equation gives a statistically significant and positive relationship, one in which moreover the value of the regression coefficient is over 3.

Returning to Table 20, it should also be noted that the middle and small peasants do not invest all of their income on-farm. For the middle peasants, as explained in the last chapter this investment represents an attempt by three family-households to diversify into non-agricultural rural activities. Two of the family-households made instalment payments on the purchase of

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Table 20:   Farm investment per holding
             per year in rupees

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	Rich peasant	Middle peasant	Small peasant	Poor Peasant	Average
Type					
Total investment	15553.7	13485.9	7819.3	1107.2	3178.9
Farm investment	15553.7	9899.6	1839.8	1107.2	7079.5
(%)	(100.0)	(73.4)	(23.5)	(100.0)	(66.8)

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Source: SMDB.
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a truck, while the third bought stock necessary for the establishment of a small shop. This can be taken to indicate an awareness on the part of these family-households of the possibility of alternative reproductive strategies of an essentially petty-bourgeois nature. Movement into petty activities is not surprising given the class location of the family-households and the resulting attempt to maintain a primarily self-employed position. In the case of the small peasants, only one family-household has recognized the potential offered by off-farm investment and has bought stock for a potential shop. It should be noted that the bulk of non-farm investment by the small peasantry represents the building of a house by one family-household on the occasion of a marriage. It is interesting to note that both the rich and the poor peasants invest solely in agriculture; the former do

so as agriculture is their source of accumulation, while it is probable that the latter do so as a result of a lack of funds and the consequent desire to concentrate meagre resources on secure activities.

3. Income

In the project area cash income takes two general forms. The first is that which is directly related to the current economic activity of the family-household. This income would thus include wage receipts, marketed farm output, hired-out capital, hired-out land, marketed farm inputs, and other income such as petty trading and transport. These forms of income are sustainable in the sense that they are directly related to the current activities of the family-household.

The second form of income is non-sustainable in the sense that it is a cash flow into the family-household which is either non-repeatable or is subject to decisions taken beyond the family-household. These cash flows would include asset sales, mobilized savings, remittances and gifts, and the acquisition of debt. The SCARP Mardan database contains information on all of these variables. It should however be noted that in common with most microeconomic investigations in developing countries the data on both debt and remittances does not appear to be consistent. The figures given below should

therefore be treated with extreme caution.

Table 21 gives the income from sustainable sources per family-household per year. The structure of the income is also given. It would be expected that a positive association would exist between class location and income. Table 21 demonstrates that this is, in general, the case. The total income of the rich peasants is almost double that of the middle peasants and over three times that of both the small and poor peasants. The only inconsistency in the positive association between income and class is that the poor peasants have a slightly greater income than that of the small peasants. Following the argument given above, it could be asserted that this is the result of the attempt by the small peasants to maintain a self-sufficient reproductive strategy in circumstances of negative relative returns to family-household labour expenditure rather than altering reproductive strategy and more fully utilizing the labour market. It can be noted that reproductive strategies may not be transformed in part because of the tension that can exist within the Pakhtun social ideal between enhanced economic position and family-household autonomy.

This unwillingness is to some extent witnessed in the structure of household incomes. As would be expected given the

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Table 21:   Per holding family-household incomes per
             year in rupees and structure of income
             in per cent

Source	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Total income	35044.9	18737.5	9986.5	10242.1	16500.2
%	100.0	100.0	100.0	100.0	100.0
Wages, %	8.7	27.0	45.3	72.7	30.8
Marketed farm output, %	33.8	48.6	29.0	24.1	41.5
Hired-out capital, %	53.1	1.9	0.0	0.0	8.9
Hired-out land, %	1.2	0.0	1.2	0.7	0.4
Other inputs sold, %	0.0	16.9	0.0	0.0	10.4
Other income, %	3.3	5.6	24.5	2.5	8.0
Income per FHH worker	12112.4	2962.6	1906.1	2101.0	3202.6
Income per capita	5854.1	1868.7	1349.6	1483.3	1956.6

Note: FHH is family-household. Figures may not sum due
to rounding.

Source: SMDB.

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definition of class status deployed in Chapter Six, a negative

association exists between class location and reliance on wage

receipts.   Whereas the rich peasants rely on wages for only

8.7 per cent of their income, the poor peasants rely on wages

for almost 73 per cent of their income. By definition the poor peasants are integrated into capitalist labour markets.

Even though they witness deficits in net farm product the small peasants have yet to become predominantly reliant on wages. This unwillingness to transform the basis of family-household reproduction drags down their overall income level but maintains their autonomy. The findings detailed within Appendix Three section 2.iv) emphasize the problems associated with such a reproductive strategy, in that within the small peasantry there exists a statistically significant, non-trivial and negative relationship between income per family-household worker and total family-household on-farm labour expenditure. Such a result indicates the difficulties facing the class in attempting to maintain its reproductive strategy. It should however be noted that this unwillingness does not apply to the entire class; a few family-households have diversified into small-scale trading to supplement income, as demonstrated by the relatively heavy reliance on other income within the class.

A second point to emerge from Table 21 is that while, as noted in Table 17, the rich peasants market proportionally more of their farm output than do the middle peasants, they are less reliant upon such receipts in the structure of their income.

That this reflects their higher absolute level of income is supported by the regression equations detailed in Appendix Three section 2.iv), where the only difference between the rich and middle peasantry in a positive, statistically significant relationship between income per family-household worker and marketed output per family-household worker is that the rich peasantry has a regression coefficient more than double the size of that attributable to the middle peasantry.

The rich peasants rely heavily upon the hiring out of farm capital; this accounts for over 53 per cent of their income. Such a finding supports the argument that the basis of rich peasant accumulation in the project area is not land but rather capital.

A striking aspect about Table 21 is the proportionally low level of income generated from the hiring-out of land. This reflects the fact that the data under consideration does not include the local landlord class.

Finally, examining the income indices the positive association between class location and income levels is once again, in general, supported. The extent of the differences are worth noting. Per family-household worker the rich peasants generate four times as much income as the middle peasants and

six times as much income as the small and poor peasants. Per
capita the rich peasants produce 2.5 times as much income as
the middle peasants and over 3 times as much income as the
small and poor peasantry. The extent of these differences
indicate a substantial difference in the ability of the
classes to meet the requirements of family-household members.
This point will be returned to below. It should once again be
noted that the poor peasants appear marginally better off than
the small peasants; the difference however amounts to only
Rs.133 per capita per year.

Table 22 gives the per holding amounts of non-sustainable cash
flows per year. That the figures should be treated with
caution is emphasized by two aspects of the information.
First, the raw data contains no interest income despite a high
prevalence of debt. This is so despite the fact that one set
of moneylenders, the petty entrepreneurial shopkeepers, are
found within the data. Second, the non-sustainable income for
the middle peasantry indicates that they receive over Rs.10000
more than their cash income, a figure which seems implausible.
The magnitude of figures for remittances to the middle
peasantry seem especially suspect. Table 22 should therefore
only be used to assess qualitative aspects of non-sustainable
income flows.

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Table 22:   Non-sustainable cash flows per family-
             household per year in rupees

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Source	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Asset sales	2936.7	9621.8	1873.5	735.2	6030.0
(%)	(45.3)	(33.4)	(31.1)	(37.6)	(33.6)
Mobilized savings	1066.7	780.6	26.1	0.0	505.3
(%)	(16.5)	(2.7)	(0.4)	(0.0)	(2.8)
Remittances and gifts	2628.0	15044.6	2539.3	741.7	9141.7
(%)	(40.5)	(52.3)	(42.2)	(38.0)	(50.9)
Net debt	-149.1	3324.0	1585.5	476.2	2276.8
(%)	(-2.3)	(11.6)	(26.3)	(24.4)	(12.7)
Total flows	6482.2	28771.0	6024.3	1953.1	17953.9
(%)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

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Notes: Figures may not sum due to rounding. Positive net debt indicates an increase in debt owed; negative net debt indicates a reduction in debt owed.

Source: SMDB.
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If such is done, several interesting points do emerge from Table 22. First, both the rich and the poor peasants rely more heavily on asset sales than do the small and middle peasants. This indicates a willingness to utilize markets even to the point of selling assets, something that primarily self-employed family-households would be less likely to do. Second, the rich peasants also save and utilize those savings as a source of funds.

Third, the middle peasants are in absolute terms much more reliant on remittances than any other class. While the figure itself is suspect, the indication it gives cannot be dismissed. Detailed consideration of the SCARP Mardan data as well as interviews in the project area reveal that those middle peasants seeking to sustain their economic position pursue an alternative form of investment as a means of securing access to additional resources; namely, they send a family-household member out of the area to work. The des-tination of such movement is by and large to the urban areas of Pakistan and not abroad. The insecurity of such an investment is witnessed in the fact that for several family-households the member that had migrated had stopped remitting income. Family-households in such circumstances usually have to be flexible, depressing physical consumption in order to cushion against the onset of economic crisis.

The final point to emerge from Table 22 concerns debt. The debt burdens acquired are the heaviest for the middle and small peasantry, indicating the ability of usurious capital to appropriate surplus from family-households seeking to sustain a difficult economic position. On the other hand, the rich peasants had been able to make a net debt repayment over the period of study, indicating less reliance on outside resources to sustain accumulation. As noted in Chapter Six, the project

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area had two principal sets of moneylenders, landlords and shopkeepers. Detailed consideration of the data makes it appear likely that the bulk of debt was owed to landlords. If such was in fact the case, the surplus appropriation figures detailed in this chapter would in fact err on the conservative side and the power of the landlord class to extract surplus would be even greater.

The labour-exploitation criterion thus appears to provide a good method by which to group family-households of differing incomes. Disjunctions between class location and income can be explained within the theoretical framework developed. Income cannot however be examined in isolation. The purposes for which income is used and the sufficiency of such income to meet those purposes must be assessed. This is done in the next two sections.

4. Expenditure

Family-households in the project area can spend their cash incomes in a variety of ways. For the sake of simplicity, these can be divided fourfold. First, there is spending for farming activity. This includes spending on cash wages, capital hired in for cash, purchased production inputs paid for in cash, cash rents, and farm investment. Second, there is spending on non-farm economic activity in the non-household

economy. This can be divided into investment and general expenditure. Third, there is spending on the purchase of goods and services for family-household consumption. Last, there is that spending that cannot be attributed to any of the above.

Table 23 sets out the per holding expenditure per year for the four classes. The structure of expenditure is also given, as are expenditure indices. Much of the table reiterates points which have already been made. It is thus the case that in the absolute level of expenditure there is a positive association between class location and wage payments, purchased capital inputs, and farm investment. These are not surprising, as they are indicative of different forms of productive organization. In the structure of expenditure negative associations exist between class location and the purchase of production inputs and consumption expenditure. This does not indicate less reliance on the market for production inputs and consumption on the part of the rich peasants but rather their greater absolute levels of spending. There is a positive association between class and the absolute amount spent on consumption; the rich peasants spend more on family-household consumption than any other class. This is supported by the regression equation detailed in Appendix Three section 2.v), which shows for the rich peasants a statistically significant,

Table 23:   Cash expenditure per holding per year
            in rupees and structure of expenditure
            in per cent

Expenditure	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Wages	6055.2	2672.5	572.4	177.0	2042.3
(%)	(11.9)	(6.3)	(2.2)	(1.4)	(5.8)
Capital	4275.2	1431.4	739.2	211.1	1291.9
(%)	(8.4)	(3.4)	(2.8)	(1.6)	(3.7)
Other inputs	3208.0	4223.7	2677.0	1650.6	3428.6
(%)	(6.3)	(9.9)	(10.2)	(12.8)	(9.8)
Rent	1691.6	2129.0	412.0	96.2	1396.3
(%)	(3.3)	(5.0)	(1.6)	(0.7)	(4.0)
Farm Investment	15553.8	9899.6	1839.9	1107.3	7079.6
(%)	(30.5)	(23.2)	(7.0)	(8.6)	(20.1)
Non-farm investment	0.0	3586.3	5979.4	0.0	3518.9
(%)	(0.0)	(8.4)	(22.9)	(0.0)	(10.0)
Non-farm income producing spending	6000.0	2334.7	0.0	0.0	1682.6
(%)	(11.8)	(5.5)	(0.0)	(0.0)	(4.8)
Consumption	14205.5	13627.0	10141.0	9631.0	12255.9
(%)	(27.9)	(32.0)	(38.8)	(74.8)	(34.9)
Other	0.0	2712.9	3775.4	0.0	2466.5
(%)	(0.0)	(6.4)	(14.4)	(0.0)	(7.0)
Total	50989.4	42617.2	26136.2	12873.1	35162.5
(%)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
Spending per FHH worker	14343.4	6919.4	5175.9	2676.3	6439.5
Spending per capita	7566.5	4457.4	3547.1	1869.4	4108.0

Note: FHH is family-household. Figures may not sum due
to rounding.

Source: SMDB.

positive and non-trivial relationship between consumption spending and total spending, one in which the regression coefficient for the rich peasantry exceeds that of any other class.

Finally, at the level of total expenditure, there is a clear positive association between total expenditure per holding, per family-household worker and per capita and class location. Per family-household worker the rich peasants spend more than twice that of the middle peasants and more than five times that of the poor peasants. Per capita the rich peasants spend more than 1.5 times that of the middle peasantry and more than four times that of the poor peasantry. In terms of overall expenditure the labour-exploitation criterion is thus able to successfully group family-households of similar expenditure levels.

5. Poverty indicators

Expenditure cannot be assessed in isolation but must rather be looked at in relation to cash income and agricultural production. While production, income and expenditure provide an indicator of the overall economic position of the family-household they must be placed in some kind of context in order to have meaning. In this section two sorts of contextualization are offered. The first examines the net

resource balance per family-household, defined as the cash income per capita less the cash expenditure per capita plus the net farm disposable surplus per family-household worker from Table 19. The returns to farm labour after inputs, rents and subsistence have been deducted represent physical resources that can be used to sustain both the cash requirements of the market transactions undertaken by the family-household and ultimately the reproduction of the family-household itself. The resource balance is thus not a real figure but rather an estimate of the economic security of the family-household.

The second contextualization compares income levels to poverty lines. Such a comparison is by no means straightforward. To begin with, the estimation of poverty lines is the subject of much debate (Fields [1980]) and poverty lines are not objective but subjective evaluations. To have any real meaning a poverty line must be able to quantify the minimum expenditure necessary to sustain not just the reproduction of an abstract individual or family-household but also other basic necessities which provide the infrastructure in which such reproduction occurs. It is thus the case that clothing, cooking fuel and perhaps rudimentary shelter should be included in the estimation of a poverty line as well as nutritional requirements. It must be stressed however that

such a "basic needs" poverty line is also a subjective evaluation.

Another difficulty in assessing relative poverty is that of income since it is insufficient to assess just cash income. The productive activities of the family-household will generate resources that can be used to obviate shortfalls in consumption. Such resources may not be comprised of cash but will have a cash value and will be used to sustain family-household consumption. For the purposes of this section then potential income will be defined as total cash income from sustainable sources less marketed farm output plus net farm disposable output. The net resources generated by production are therefore incorporated into the estimation of potential income levels.

Table 24 gives the resource balance per family-household per year in the project area. Given the theoretical underpinnings of the analysis advanced it would be expected that the rich peasantry would be in the most secure position. Such is indeed the case. The effort of family-household labour expended in agricultural production by the rich peasantry exceeds the per capita cash shortfall by some Rs.154. Given the argument advanced concerning the specificity of differentiation in the project area it would be expected that the

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Table 24: Resource balance per holding per year
in rupees

Item	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Income per capita	5854.1	1868.7	1349.6	1483.3	1956.6
Expenditure per capita	7566.5	4457.4	3547.1	1869.4	4108.0
Cash balance	-1712.4	-2588.7	-2197.5	-386.1	-2151.4
Farm disposable surplus per FHH worker	1866.7	-333.2	-642.0	-203.6	-247.7
Net resource balance	154.3	-2921.9	-2839.5	-589.7	-2399.1

Source: SMDB.

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high levels of surplus appropriated from those family-households most reliant on self-employment would mean that any shortfalls in cash requirements would not be met from agricultural activities. Such is indeed the case. The middle and small peasantry must therefore be extremely reliant upon non-sustainable cash flows such as debt, remittances and asset sales in order to maintain their livelihoods. Such a position is one predicated upon the need to be flexible in what are essentially fragile circumstances. Finally, it would be expected that family-households subject to surplus appropriation that have exited from the land market would not

witness the same degree of resource shortfalls as those family-households still reliant upon the land market. Such is indeed the case. The poor peasantry, while in a net resource deficit per capita, are not in the extremity of deficit witnessed in the middle and small peasant classes. One last point should be stressed: the only family-households secure in their agricultural pursuits are the rich peasants. The remaining classes' agricultural activities do not obviate their net resource deficits.

Turning to a comparison of income and basic needs, two poverty lines are available for Pakistan (see International Fund for Agricultural Development [1984]; de Kruijik and van Leeuwen [1985]). They are estimated per family-household and in 1979 U.S. dollars. The value of each poverty line is inflated by the annual rate of inflation in Pakistan so that the approximate 1985 value of the poverty lines is derived. While by no means ideal, this rudimentary method of arriving at a poverty line should allow comparison of the potential income of the family-households relative to basic needs. This method results in one poverty line of U.S.$833.81 per family-household and another poverty line of U.S.$952.92 per family-household. Converting at the 1985 exchange rate gives poverty lines of Rs.13282 per family-household and Rs.15179 per family-household respectively. The total potential income is

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calculated as outlined at the beginning of this section and is converted into U.S. dollars. Table 25 gives the total potential income per family-household and the deviation of the classes from the two poverty lines, as well as the per capita potential income in U.S. dollars.

In Table 25 it is apparent that regardless of the measure the rich peasants lie substantially above the poverty line. Even so, the per capita income is low, amounting to only U.S.$322.40 per year. Looking at the middle peasants, the choice of poverty line makes a difference as to whether or not the middle peasants lie above or below the line. The middle peasants therefore appear to be on the margin, either just above or just below the poverty line and per capita incomes are low. For both the small and poor peasants, the choice of poverty line is academic; both classes lie below the poverty line. Per capita incomes are low. As would be expected the small peasants appear to be in the most insecure position, lying further below the poverty line and with the lowest per capita incomes. This supports the contention that in the project area it is the small peasants who are under the greatest economic pressure. It is also worth noting that in U.S. dollar terms the per capita income of the rich peasants is at least three times that of any other class. While admittedly from a low base, such a difference is significant.

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Table 25:   Family-household poverty estimates in 1985
             U.S. dollars

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Income	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Total potential income	1934.2	950.1	585.1	652.7	884.6
Deviation from:					
PV1	1100.4	116.3	-248.7	-181.1	50.8
PV2	981.3	-2.8	-367.9	-300.2	-68.4
Potential income per capita	322.4	95.5	70.5	94.5	99.7

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Notes: Potential income is farm disposable output plus
family-household income less marketed output.   PV1 is an
estimated family-household basic needs poverty line of
U.S.$833.81 per annum.   PV2 is an estimated family-household
basic needs poverty line of U.S.$952.92 per annum.   U.S.$1.00
= Rs.15.93 in 1985.

Source: SMDB; International Fund for Agricultural Devel-
opment [1984]; de Kruijik and van Leeuwen [1985]; I.M.F.
[1987].
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Regardless of whether resource balances or poverty lines are

used to indicate economic security, it is apparent that in the

project area poverty is widespread. Considering the fact that

Green Revolution technologies have been utilized in the area

for over twenty years, the extent of poverty is disquieting.

It should be noted however that such a finding is consistent

with the theory of peasant class differentiation and the

specificities elaborated concerning the project area.   If

agrarian accumulation is based upon the utilization of superior agrarian technologies to raise the quantum of surplus, it is to be expected that adopters of improved technologies would witness their income levels improving while those who are not able to utilize such technologies to the same degree would witness little improvement in their income levels. At the same time those family-households in the project area which see little improvement in income are often subject to the additional burden of ground rents appropriated by landlords. The conclusion would appear to be that the presumed "trickle-down" effects of the new agrarian technologies introduced in the late 1960s have done little to improve the economic position of the poorest, for the potential benefits of such technologies can be appropriated by rural dominant classes such as landlords and dynamic proto-capitalist rich peasants.

6. A comparison with acreage groups

As in the last chapter, it is not proposed to detail the minutiae of the differences between class-based and acreage-based classifications of family-households in the project area. It is rather proposed to highlight briefly the inconsistencies which an acreage-based classification cannot adequately explain.

Table 26 summarizes an acreage-based classification of output
and investment per holding per year. The first point to note
about Table 26 is that it clearly shows an inverse
relationship between farm size and gross output produced per
acre.   This is not surprising given that an inverse rela-
tionship was also found in the class-based classification.
The superior productivity of the smaller farms may however be
open to doubt.   There is in general a positive relationship
between output per family-household worker and farm size which
is only violated when comparing holdings of between 7.5 to
less than 12.5 acres with holdings of 12.5 to 25 acres.   It
has been argued above that productivity should be based upon
an actual asset--labour--and not a hypothetical asset--land--
which the smallest holdings do not have. It can also be noted
that when costed and non-costed variable inputs excluding
family-household labour and rents are deducted from gross
output, the resulting net farm labour output per holding is
positively associated with farm size.   While that would be
expected, given the increased acreage available to the larger
farms, it should not be supposed in the context of agrarian
accumulation that relative output is more important than
absolute output. Lumpy investments require threshold amounts
of resources which only the larger farms have the potential to
generate.

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__Table 26__: Summary of output and investment per
year by acreage groups, in rupees

	.01- <1	1- <2.5	2.5- <5	5- <7.5	7.5- <12.5	12.5- 25	Average
__Output__							
-per farm	8699	11462	20757	29468	45811	50066	24273
-per acre	20980	7419	5609	4917	4545	3238	7823
-per FHH worker	2035	2594	4617	5938	6567	6541	4505
__FLO__	3071	4066	8886	11424	18306	22761	9718
__FDO__	2935	2669	4868	5039	5652	7889	4431
__FLS__							
-per farm	-720	-756	3436	3348	8473	12937	3179
-per FHH worker	-87	32	770	981	1264	1942	670
__FDS__							
-per farm	-856	-2153	-582	-3037	-4181	-1934	-2108
-per FHH worker	-107	-337	-168	-114	-649	-93	-248
Farm Investment per farm	816	1972	10695	12988	6514	6249	7080

__Notes__: FLO is farm labour output; FDO is farm disposable
output; FLS is farm labour surplus; FDS is farm disposable
surplus. FHH is family-household.

__Source__: SMDB.

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Table 26 demonstrates no clear relationship between surplus

generation and acreage. While net farm labour surplus per

family-household worker is positively associated with size of

operational holding, such is not the case of net farm labour

surplus per farm. Such a result is counter-intuitive and is
not easily explained. It is further the case that when rents
are deducted, the net farm disposable surplus shows no consis-
tent pattern with acreage groups. Even more importantly,
whether assessed per farm or per family-household worker all
acreage groups generate negative returns to family-household
labour. The mid-sized farms are most favourably placed, but
even they have net farm disposable deficits of Rs.582 per
holding for the 2.5 to less than 5 acre group and Rs.114 per
family-household worker for the 5 to less than 7.5 acre group.
While the labour-exploitation criterion produced many negative
results, the rich peasants did have net farm disposable
surpluses. The acreage-based groupings thus tend to
understate the extent of differences between farms.

The last point to be made concerning Table 26 regards farm
investment. If larger farms were producing greater absolute
levels of output it might be expected that the larger farms
demonstrated the highest levels of investment. Such is not
the case. The pattern of farm investment when arrayed across
acreage groups has an inverted U-shape. Per holding the 2.5
to less than 5 and 5 to less than 7.5 acre groups invest
substantially more than the larger holdings despite the fact
that they produce in absolute terms less output. It would
appear that the mid-sized farms, in terms of the smaller size

of deficits and the investment they pursue, are the more dynamic farms.

Acreage-based groupings give little by way of explanation as to why this might be the case. This is because acreage groups do not have the ability to extract the farms that are exploiting labour, utilizing capital for accumulation, and are generating surpluses. These farms happen, in Sarfaraz and Platoo, to fall within the mid-sized acreage groups, thus giving the impression that they are the most dynamic. Once again, output and investment reinforce the conclusion that acreage-based groupings serve to obscure the actual pattern of differentiation in the project area.

This can be demonstrated with even greater clarity in Table 27, which summarizes income, expenditure, and the net resource balance per holding per year of the various acreage groups. Looking first at income, it is apparent that income per holding rises, falls and then rises again as acreage increases. Why the 7.5 to less than 12.5 acre holdings should have lower incomes than the 5 to less than 7.5 acre holdings is not explicable by mere reference to acreage. It is also apparent that the 5 to less than 7.5 acre group is less reliant on wages as a source of income and more reliant on the hiring out of capital. This can only be explained by the fact

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Table 27: Summary of family-household income and
          expenditure per year by acreage groups,
          in rupees

	.01- <1	1- <2.5	2.5- <5	5- <7.5	7.5- <12.5	12.5- 25	Average
All income	8851	9471	10652	25090	21014	30018	16500
of which:							
-wages, %	74	63	39	13	33	9	31
-hiredout capital, %	0	6	0	25	0	0	9
Incomeper worker	2045	1946	2465	5673	2752	3382	3203
Incomeper capita	1413	1356	1429	3104	1860	2143	1957
All spending	11945	27932	27504	54940	47492	44347	35163
of which: -farm in- vestment,%	7	7	39	24	14	14	20
Spending perworker	2866	5583	6057	9994	6815	5618	6439
Spending percapita	1903	3920	3839	5996	4232	4063	4108
Net resource balance	-597	-2902	-2579	-3007	-3020	-2012	-2481

Note: Net resource balance is income per capita less
expenditure per capita plus farm disposable surplus per
worker. Per worker indicates per family-household worker.

Source: SMDB.
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that some of the farms in this group pursue different
production objectives. These differences are reflected in the

income per family-household worker and per capita, both of
which are highest for the 5 to less than 7.5 acre group. It
is thus apparent that this acreage group contains more dynamic
cultivators, but why they should be in this group cannot be
explained by reference to acreage.

Turning next to expenditure, Table 27 shows that no associa-
tion exists between acreage and spending levels. This is
despite the fact that the higher acreage groups produce more
in absolute terms. The previously mentioned findings on farm
investment are reiterated in the table, showing the mid-sized
farms to invest substantially more than other acreage groups.
Spending per family-household worker and per capita both have
an inverted U-shape when arrayed across acreage groups.
Finally, reflecting the net farm disposable deficits regis-
tered by all acreage groups, the net resource balance of all
acreage groups is negative. This indicates that for all
groups any potential shortfall between cash income and cash
expenditure per capita is not obviated by the post-production
and post-consumption returns to family-household labour used
on-farm. No clear pattern emerges between size and net
resource balance.

7. Conclusion

This chapter has surveyed a wide range of economic informa-

tion. Gross and net output, income, expenditure, and poverty has been assessed. The findings of this chapter and the previous two have not been able to precisely explain all the data observations. However, the labour-exploitation criterion has been able in general to provide a class-based under-standing of the dynamics of agrarian structure in Sarfaraz and Platoo. Such an understanding is rooted in the emergence of a small class of agrarian accumulators in the context of a structure dominated by landlords. The pressures of surplus extraction by landlords and accumulation by rich peasants has produced a market-oriented poor peasant class which derives the bulk of its income from waged labour and yet retains ties to the land. These same pressures are bearing down especially upon the small peasantry, which may be undergoing processes of fragmentation as a result of its attempt to maintain itself as a primarily self-employed strata. While the middle peasantry remains large, the insecurity of its position is demonstrated by its reliance upon non-sustainable cash flows to maintain economic security. A loss of those flows could well result in a speeding up of the fragmentation of the class. Barring such a loss however these flows to some extent restrict the forces of differentiation. Such an outcome is of benefit to the landlord class in that it maintains their source of ap-propriable surplus.

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CHAPTER NINE:

THE SEXUAL DIVISION OF LABOUR IN SCARP MARDAN

1. General observations

The analysis of peasant class differentiation in SCARP Mardan

can now move inside the family-household to consider whether

family-households equitably distribute the labour expenditure

and surplus appropriation that contribute to peasant class

differentiation.   The method derived from Folbre's marxist

analysis of the sexual division of labour, as outlined in

Chapter Four, will be used to assess the intrahousehold

allocation of labour expenditure.   As argued in Chapter Four,

inequalities in the allocation of intrahousehold labour

expenditure could be said to constitute the material basis of

gender subordination.

Any complete analysis of the sexual division of labour would

of necessity involve an investigation of the relevant ideolog-

ical aspects of gender subordination.   Such an investigation,

while very important, is beyond the concern of this work.   The

complexity added by the non-economic aspects of the sexual

division of labour must however be kept in mind, as it and

other forms of gender subordination will not be captured in data. For example, inequalities in intrahousehold labour allocation might not necessarily indicate gender subordination but rather voluntary sacrifices on the part of members of the family-household. At the same time however the ideological basis of the conjugal contract and the implicitly coercive aspects of such ideology, as outlined in Chapter Three, mean that assertions of voluntarism are at the very least open to question. By way of contrast, equity in the intrahousehold distribution of labour does not mean that women are not oppressed but rather that if oppression is present it is premised upon a specific ideological construction which sustains gender-based alienation. Caution should thus be exercised regarding definitive conclusions based on statistical findings alone.

Prior to implementing the Folbre method on the recollated SCARP Mardan information it is worth noting some important findings concerning the sexual division of labour in the two villages which arise from an examination of the raw data. As a prelude however it is useful to briefly mention the sorts of tasks which comprise the working life of women and men in the project area. Women's on-farm tasks primarily encompass support services such as cooking for farm labourers. It can also however consist of assisting in the carrying and storage

of crops, harvesting and land preparation. Less common tasks can include threshing, sowing, weeding, ridging and transplanting. If animal husbandry within the family-household compound is included as on-farm work, women's farm work expands to include milking, feeding, cleaning the animal compound, and to a lesser extent churning and grazing and watering supervision. In general, men's on-farm tasks could include all of these tasks but with two key provisions. First, support services would very rarely be performed by males. Second, if males assisted in animal husbandry more time would be likely to be spent on tasks occurring outside the family-household compound such as grazing and livestock supervision.

In terms of domestic work, women's tasks involve a range of activities. More important activities would include obtaining water, obtaining fuel, cooking, childcare, cleaning and washing. Less important activities could include plastering, the production of ghee, and marketing, particularly of milk and any family-household produced handicrafts. In addition, women have an obligation to provide hospitality for others, and this will have as a component the task of preparing food. Men's domestic activities are much more limited, encompassing some repair and maintenance of the family-household compound, purchasing of commodities, and some marketing. In addition,

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male tasks would include meetings and social gatherings, but this will rarely if ever have a work component for men.

In addition to on-farm and domestic work, family-household labour is hired-out, either to work on the farm of another or to work off-farm. Labour services so engaged normally replicate the kinds of tasks performed by males within their own family-household. For males, the provision of labour services is not uncommon. Females are rarely engaged for the purposes of waged work.

Table 28 gives the average daily labour expenditure per worker of family-household members by age and sex. It includes own-farm work including animal husbandry, domestic work and the hiring-out of family-household labour. It is apparent from Table 28 that in all classes on average the hours per day worked by females substantially exceeds that of males and of children. The small peasants show the least differential between the work performed by males and females, but even within this class women work on average 3 hours more per day than men, which is nearly the length of working day for rich peasant males. The shortest working day belongs to women of the small peasantry, while paradoxically the working day of the women of the rich and middle peasantry is the longest. This finding will be discussed below.

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Table 28:      Per worker daily labour expenditure of
               family-household members by age and sex,
               in hours
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Group	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Males	3.6	5.5	5.0	4.8	5.1
Females	9.4	9.3	8.0	8.1	8.8
Children	1.4	2.2	2.2	2.0	2.1
Total hrs per day per FHH	17.9	38.0	29.2	28.5	33.1

Note: Labour expenditure comprises own-farm, domestic
and off-farm work. FHH is family-household.

Source: SMDB.
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As would be expected, the rich peasant males work less per day

than the males of any other class. The longest working day

for males are for those located within the middle peasantry;

even so, the average daily labour expenditure of middle

peasant males is almost 2.5 hours less than that of the women

of the small peasantry, who have the shortest working day of

all women.

Children do not work nearly as much as either males or females

per day, but the amount of work performed is not insignificant

and indeed at the margin could be very important. The data on

children must however be treated with caution, as it is not broken down by sex. When interviewed, the field investigators responsible for the two villages argued that the data which shows rich peasant children working less is the result of male children withdrawing from working activities altogether. They strongly believed that rich peasant female children work as much as the female children from other classes, performing childcare, cleaning and livestock maintenance in preparation for their adult responsibilities. Interviews with farmers conducted in 1992 supported this argument. The lower amount of rich peasant child labour could thus mask a constant level of rich peasant female child labour expenditure.

It is also useful to note differences in average daily total family-household labour expenditure between classes. Firstly, the middle and small peasant family-households tend to work more than the rich peasants. This would be expected, as it reflects the formers' status as being primarily self-employed and the consequent need to extract maximum effort in order to meet the compulsion of surplus appropriation. Second, the poor peasants work less than the middle peasants and marginally less than the small peasants; this reflects both small operational holdings and the lack of secure, non-casual off-farm employment.

Table 29 continues the analysis by presenting the raw data on the composition of labour expenditure within the family-household by economic class, age and sex. As would be apparent from the previous discussion, the category "own-farm" in Table 29 does not simply imply working in the fields but rather the range of activities, both public and private, needed to support agricultural production.

Examining males first, it should be recalled that the relationship between male self-employment in agriculture and net hiring in of male labour in agriculture is the basis by which family-households are assigned a class location. It is thus of interest that in all classes other than the poor peasants the majority of male labour expenditure is engaged in own-farm work. This is not surprising given both the findings of Chapter Six and the ideology of Pakhtunwali, within which it is clear that family-household economic activity should be gender segregated. Middle peasant males devote the highest proportion of their time to farmwork. This is consistent with the reproductive strategy of the class posited in Chapter Six; namely, that in the context of female seclusion, near-sufficient or potentially sufficient land, raw material and capital resources mean that family-household males can attempt to focus on their own farming activities rather than seeking to be hired-out in order to maintain familial reproduction.

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Table 29:   Labour expenditure per worker per year in
             hours and structure of work of family-
             household members

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Group	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Males	1323.9	2003.0	1825.7	1748.3	1878.5
of which:					
domestic, %	3.4	2.1	2.1	3.3	2.3
own-farm, %	66.1	68.3	53.4	16.0	58.3
hired-out,%	26.5	21.2	39.7	80.0	35.3
other, %	4.1	8.4	4.8	0.7	4.0
Females	3423.0	3391.3	2908.2	2949.1	3211.9
of which:					
domestic, %	83.4	87.8	86.3	85.1	86.8
own-farm, %	16.6	12.2	13.3	14.8	13.1
hired-out,%	0.0	0.0	0.4	0.1	0.1
Children	528.9	791.1	807.1	727.6	769.5
of which:					
domestic, %	48.1	48.6	33.1	46.2	47.9
own-farm, %	50.5	48.2	33.1	42.7	46.7
hired-out,%	1.4	3.3	11.3	11.1	5.5

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Source: SMDB.
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The same story can almost be told for the small peasants, with the addition that the smaller resource base of the small peasantry means that while the majority of male labour effort is expended in their own farming activities it is more common for men to hire themselves out in the effort to maintain familial reproduction. By way of contrast, poor peasants spend less than a fifth of their time engaged in work on their own farm. This is again consistent with the reproductive

strategy posited in Chapter Six, one which witnesses them being subjected to exploitation through labour markets. Rich peasants, on the other hand, work a lesser absolute amount on their own farm than any other class bar the poor peasantry while hiring themselves out in absolute terms less than any other class and this, in combination with increased hiring-in of labour, explains their lower average labour expenditure. Again, this work pattern is consistent with the reproductive strategy of the class detailed in Chapter Six.

With the exception of the rich peasantry, most children's work is domestic in nature. The difference between domestic and own-farm work is however quite small. Detailed consideration of the data indicates that the bulk of children's work on their own family-household farm consists of supervising livestock. This is performed by both male and female children. Conversely, children's domestic work, which consists of the same range of activities as that performed by women, appears to be carried out by females. It is unclear why children in the rich peasantry work more on their own farm, although an intuitively plausible explanation consistent with the previous discussion is that female child labour is substituting for male child labour. For the poor and small peasant family-households hired-out labour is not an insignificant category of child labour.

As would be expected given the gender segregation of family-household economic activity, over 80 per cent of female labour expenditure in every class is spent on domestic work. The amount of female labour hired-out is insignificant. It is interesting to note the unique situation detailed in Table A9 of Appendix Four where in absolute terms poor peasant women spend over 150 hours more per year in work on their own farm than do poor peasant males. It is possible that for the poor peasantry the stigma attached to failing to adhere to gender segregation is outweighed by the need to mobilize limited family-household labour for work on their own farm when males have entered the labour market and are thus less readily available for work on their own farm. It is similarly surprising that rich peasant females spend a higher proportion of their working time on the family-household farm than do females of the other classes. Given that rich peasant females marginally have the longest working day of women in all classes, this means that rich peasant women spend more time in farmwork than do women from other classes. This contradicts the finding of the SCARP Mardan evaluation team that as income rose the non-childcare labour of females declined. In light of the different method that has been used in the present study to group family-households, the suggestion that the employment of hired labour for crop and livestock agricultural work within the rich peasantry and the associated economic

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strength of the class does not necessarily reduce the workload of women cannot be ignored. It may be that this significant finding is due to the stricter application of the Pakhtun social ideal which is permitted by a stronger economic position.

Such a hypothesis can be sustained by first noting that in general as family-households become wealthier the ideal of female propriety which results in seclusion can be even more rigorously enforced. At the same time however Pakhtun ideals dictate that a wealthier family-household entertain guests more frequently and thus demonstrate their economic position. With extra-familial females in general not being able to be hired because of the application of seclusion in the two villages, the result would be a heavy familial female workload in primarily domestic work. This would account for the heavy domestic workload borne by rich peasant women. At the same time, the increased demands of both food preparation for hired labour and livestock maintenance concomitant with economic strength combined with the difficulty in hiring female labour could well lead to a heavier workload on the family-household farm, a load which is nonetheless performed behind the walls of the family-household enclosure. It is thus the case that a stricter application of the Pakhtun social ideal is com-patible with an increased workload for women. This

explanation was strongly supported by the supervisor of the women's component of the evaluation when interviewed in 1992.

It might be argued that this finding renders problematic the superior efficiency of the rich peasantry. In conventional economic theory, efficiency gains are witnessed in an increase in output relative to the cost of inputs. Such an approach however fails to take into account non-costed unpaid labour. It is thus the case that while the rich peasantry of the project area may in money terms produce more net output per unit of family-household labour input, such a measure fails to take into account the increase in total unpaid labour inputs performed by females within the family-household. There may thus be a notional "transfer" of costs from the non-household economy to the household economy which would not be captured in conventional costing principles and which would have to be assessed before any assertions regarding efficiency are made. This argument, while correct, does not compromise the finding in Chapter Eight that the rich peasantry is, per family-household worker, more efficient, because the measures of surplus used have imputed a value to unpaid labour and have thus accounted for transfers of costs between the non-household and household economies.

Tables 28 and 29 give a clear and strong sense of inequality

in the distribution of labour within the family-household. This sense is reinforced if attention is given to the regression equation detailed in Appendix Three section 2.vi). This regression indicates a statistically significant, positive and non-trivial relationship between the dependent variable per worker family-household labour and the independent variables per female worker family-household labour and per male worker family-household labour. The interesting point about this equation is however the size of the regression coefficients. The coefficient for per female worker family-household labour is over twice the size of that for per male worker family-household labour, indicating a strong gender-based disparity in labour contributions within the family-household.

The sexual division of labour in the project area thus implies long work days for women in a combination of domestic work and livestock maintenance activities, while men tend to work less than the length of the paid working day. At the same time, the important implication brought out by the tables is that superior economic performance by family-households need not translate into a reduction in the labour performed by females. In Sarfaraz and Platoo the reverse has occurred and there is strong evidence of a worsening in the inequalities present in the sexual division of labour as a rich peasantry emerges out

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of the differentiation process. Clearly, in the project region the benefits of agrarian dynamism are unevenly distributed amongst the members of the family-household.

2. Further thoughts on the Folbre method

The raw data collected by the SCARP Mardan evaluation team presents strong evidence of gender-based patterns of in-equality within the family-households of Sarfaraz and Platoo. However, in its raw form the data cannot be used to assess whether the burden of class exploitation is equitably distributed within the family-household. Such an assessment is a central purpose of this study. Exploitation in its marxian sense must be based on the relativistic concept of socially-necessary labour time. An examination of the intrahousehold distribution of class exploitation involves assessing the amount of work performed by a member of the family-household, as detailed in section 1 of this chapter, relative to the amount of work necessary to reproduce the member of the family-household.

The intrahousehold labour allocation ratio advanced by Folbre and detailed in Chapter Four can be used for such an examination. It is useful to reiterate briefly this method. If a family-household member is exploited in the labour market then the total number of hours worked by a family-household

will by definition be more than the socially-necessary labour time for the family-household. In such circumstances, if the family-household is egalitarian then the ratio of total labour expenditure to necessary labour by sex and age should be equal. If the equality does not hold a redistribution of exploitation is occurring. The labour expenditure necessary to maintain allocative equity is notionally "transferred" to other members of the family-household, who then become responsible for the performance of the labour. If the pattern of intrahousehold labour allocation results in the family-household being deemed inegalitarian it is also likely that not all family-household members receive a share of net household product commensurate with their individual con-tribution to net household product. Such a finding would follow from Chapter Three's argument that domestic work is subject to a rate of return below opportunity costs and hence unequal exchange. Both intrahousehold labour and its product could thus be said to be inequitably distributed.

In the context of a peasant economy undergoing processes of differentiation the total labour time of the largely self-employed small peasantry should, by definition, approximate necessary labour time. Within the small peasantry the ratio of all male labour expended to all female labour expended should approximate unity if all work is equally shared.

Algebraically,

$$T_f/T_m = 1 \qquad\qquad (8)$$

with (T) representing total labour and the subscripts (f) and
(m) representing female and male.

Chapter Four develops a method whereby the labour expenditure
of the small peasantry forms the starting point from which the
intrahousehold distribution of exploitation within other
classes can be assessed. The ratio of other classes' family-
household total labour expenditure to small peasant average
labour expenditure should be equal across the sex and age
groups if the family-households of the other classes are
egalitarian. Recalling the algebra,

$$T_f/V^*_f = T_m/V^*_m = T_c/V^*_c \qquad\qquad (9)$$

where (T) represents total labour, (V^*) is average labour
expenditure of the small peasantry, and the subscripts (m),
(f) and (c) represent males, females and children respect-
ively. It was argued in Chapter Four that this method enables
a first approximation of the material basis of gender
oppression to be made, as any inequalities are quantitative
indicators of a qualitative redistribution of the burden of
exploitation between family-household members.

The application of the intrahousehold labour allocation ratio

is however not quite as clear as the above presentation would suggest. While it is fair to say that the total labour expenditure of the small peasant family-household should approximate socially-necessary labour time, it cannot then be simply adduced that the individual members of the small peasant family-household perform only socially-necessary labour. Such a leap ignores social relations within the small peasantry. The labour expenditure by age and sex of the small peasantry might thus be quite an inaccurate signpost of socially-necessary labour time. A numeraire must thus be used which does not assume an egalitarian allocation of labour within the small peasant family-household.

Another problem with the Folbre method concerns the work period used as a frame of reference for calculating the intrahousehold distribution of class exploitation. Over extended periods certain members of the family-household will perform disproportionately more labour than other members. The expectation is that the extra effort in the present will be compensated for by less effort in the future. There is thus an intertemporal dimension to intrahousehold labour allocation. An obvious example of this is children and the aged. Young children are the beneficiaries of work effort made on their behalf by their parents. In return, at a later phase in the life-cycle the children will perform more work

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relative to the parents. While over the life-cycle intertemporal variations in the pattern of the intrahousehold labour allocation ratio across age and sex groups should approximate equality if the family-household is egalitarian, at any point in time it is extremely unlikely that the observed pattern would match the intertemporal pattern. Such would also be the case for inegalitarian family-households. Attempting to judge the pattern of labour allocation within family-households at a given point in time without detailed knowledge of possible intertemporal variations would thus appear to leave open the possibility of systematically incorrect conclusions.

The SCARP Mardan database has an insufficient period of observation to permit an intertemporal assessment of intrahousehold labour allocations. The limited time span means that the assessment of total labour expenditure to necessary labour time must be carefully considered for certain groups, in particular children, within the family-household. This problem is one that cannot be adequately addressed other than by simply removing children from consideration in the intrahousehold pattern of labour expenditure. Such an option is not ideal. While intertemporal variations in adult labour expenditure are of much less importance as adult males and females can be expected to contribute an approximately

constant amount to family-household labour over the course of their respective adult working lives, it was demonstrated in section 1 of this chapter that the amount of work performed by children was not insignificant and for some family-households could be a pivotal aspect of their reproductive strategy. For this reason, the exclusion of children from the analysis will be temporary; they will be reintroduced later, thus resulting in two alternative methods of calculating intrahousehold labour allocation.

Focusing on adults alone it is further possible to obviate the other weakness of equation (9), that of the social relations within the small peasantry, and thus generate a method whereby the equity of intrahousehold labour allocations can be assessed. This method requires a fresh assumption: that the average socially-necessary labour time for small peasant males is equal to that of females. Leaving to one side the validity of such an assumption, which will be discussed below, its use allows the Folbre method to be reexpressed as

$$T^{+}_{f}/V^{*}_{a} = T^{+}_{m}/V^{*}_{a} \qquad (12)$$

where (T^{+}) refers to the average per member labour expenditure, (a) is adult and all other terms are as they were previously defined. If the family-household is egalitarian the ratio of average per member labour expenditure by sex to the necessary labour time of the adult small peasant should be

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equal between the sexes. If the equality does not hold, the family-household is inegalitarian. The labour expenditure necessary to maintain the family-household as an egalitarian entity is being transferred onto a specific group within the family-household.

The method of computing the intrahousehold labour allocation ratio given in equation (12) is an advance in that it does not assume gender equality within the small peasantry while at the same time permitting a sex-specific comparison of intrahousehold labour allocation across family-households. The method does however appear to have weaknesses rooted in its assumption about a lack of gender-based differences in socially-necessary labour time which may at first appear to be theoretically untenable. The differences in physiology between the sexes would appear to generate the need for different socially-necessary labour time. Yet it must be recalled that socially-necessary labour time does not equate with physiological subsistence. An important component of socially-necessary labour time is what Marx called the "historical and moral element" (Marx [1976]: 275) in consumption which is reflective of the socially-formed consumption standards that are deemed to be unexceptional given the level of development of society. With common human physiological standards of subsistence reflective of sexual

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duality, differences in socially-necessary labour time across societies would in fact be dominated by differences in the historical and moral element. Even in the context of the agrarian sector of a poor country, where actual consumption may tend to subsistence levels, the lack of social accept- ability of such levels of consumption could mean that the historical and moral element is an important, even dominant, component of socially-necessary labour time. It can thus be theoretically argued that in a poor country on average over the course of their adult life men and women require ap- proximately the same labour expenditure to secure the totality of their physical and social reproduction.

It is thus posited that equation (12) allows a judgement concerning the possible material basis of the conjugal contract by focusing on the key dynamic within the sexual division of labour, that of male/female relations. At the same time however it should be noted that given the informa- tion contained in section 1 of this chapter concerning the working contribution of children, the absence of children in equation (12) could lead to a misspecification of sources of intrahousehold inequality.

It is possible to incorporate the contribution of children by returning to equation (9) and amending it so that it takes the

form

$$T^+_f/V^*_f = T^+_m/V^*_m = T^+_c/V^*_c \qquad\qquad (13)$$

where all terms are as they have been previously defined. The difference between equations (9) and (13) is that the numerator in equation (9) refers to total labour expenditure and the numerator in equation (13) refers to average per member labour expenditure. Equation (13) thus compares the average per member labour expenditure of sex and age groups to the average labour expenditure necessary to reproduce the same sex or age group in the small peasantry. An inequality generated from the computation of equation (13) would be indicative of a notional transfer of labour expenditure between members of the family-household in excess of that required to maintain allocative equity.

Equation (13) is however problematic for the same reasons that equation (9) is problematic: both ignore social relations within the small peasantry and the intertemporal aspects of intrahousehold labour allocations. That having been said, it should be noted that what is required of the Folbre method is a qualitative indication of possible transfers of intrahousehold labour allocation beyond that which would be dictated on the grounds of allocative equity. This is distinct from a quantitative measure of inequality. It is thus the case that despite the difficulties in equation (13)

it does incorporate children, it does utilize a conceptually more rigorous numerator, and it can be used to give some preliminary estimates of the magnitude of transfers of intrahousehold labour allocation amongst all age and sex groups of the family-household. Indeed, the assumption of equality within the small peasantry means that the results may err on the side of conservatism if the assumption leads to the contribution of males being overstated, a possibility that is not outside the bounds of reason.

The following analysis will therefore compute the results generated by both equation (12) and equation (13) in its assessment of intrahousehold labour allocation. Such an approach permits the two alternative sets of estimates to be judged comparatively.

The examination of the information resulting from each equation will consist of two steps. First, the estimated average ratios of total to necessary labour time for all the family-households in each class will be given. Second, and more importantly, the intrahousehold labour allocations made by each individual family-household will be tabulated by class. The tabulation consists of two steps. The first step assesses whether or not the household is egalitarian. It is proposed that if the ratio of the averaged total to necessary

labour time for the family-household is $\pm.15$ or less of that required for strict equality by age and sex groups the family-household will be deemed to be egalitarian. This arbitrary figure was chosen because it allows a wide margin for error and thus gives a conservative estimate of inequality. If the family-household is deemed to be inegalitarian, the age or sex group whose ratio of total to necessary labour expenditure is at least .15 above that of another group is said to be the recipient of transfers of intrahousehold labour allocations in that they perform labour well in excess of that dictated on the grounds of allocative equity. With the group's intrahousehold labour allocation being well beyond that needed to maintain equity within the family-household, the "burden" of the family-household's class location can be said to be borne by that group.

3. <u>Intrahousehold labour allocation: method one</u>

The first results are those derived from equation (13), which computes average per member labour expenditure by sex and age group compared to the average labour expenditure performed by the same sex and age groups within the small peasantry. Table 30 gives the results.

Looking first at the average ratios of total to necessary labour time across the classes, it is confirmed that females

Table 30:   Intrahousehold labour transfers:
                method 1

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a): Average ratios of total to necessary labour-time
         for family-household members

Group	Rich peasant	Middle peasant	Small peasant	Poor peasant	All
Males	.725	1.097	1.000	.957	1.029
Females	1.177	1.166	1.000	1.014	1.104
Children	.655	.980	1.000	.902	.953

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b): Structure of labour transfers, in per cent

	Rich peasant	Middle peasant	Small peasant	Poor peasant	All
Egalitarian	16.7	20.8	13.0	18.2	18.2
(no. of hh)	(1)	(10)	(3)	(2)	(16)
Inegalitarian: transfer to					
i) males	0.0	16.7	13.0	18.2	14.8
(no. of hh)	(0)	(8)	(3)	(2)	(13)
ii) females	66.4	20.8	17.4	18.2	22.7
(no. of hh)	(4)	(10)	(4)	(2)	(20)
iii)children	16.7	41.7	56.5	45.5	44.3
(no. of hh)	(1)	(20)	(13)	(5)	(39)
iv) all	100.0	100.0	100.0	100.0	100.0
(no. of hh)	(6)	(48)	(23)	(11)	(88)

Notes: Method 1 compares total to necessary labour time
by age and sex by defining total labour time as per capita
labour expenditure by age and sex and necessary labour time as
average per capita small peasant labour expenditure by age and
sex. These are then compared across family-household groups.
For the small peasants total labour expenditure by age and sex
is compared. Egalitarian is defined as when the ratio of
total to necessary labour time across family-household groups
is within $\pm.15$. If such is not satisfied the form of the
inequality indicates the pattern of redistribution of labour
expenditure. Figures may not sum due to rounding.

Source: SMDB.

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contribute proportionately larger amounts of labour than other groups within the family-household. The difference is however not as extensive as might be expected given the strong evidence of inequality presented in section 1 of this chapter. The only class with a marked sex-based difference in labour expenditure is the rich peasantry. Using this method by definition the small peasantry must be egalitarian at the level of the entire class. For both the middle and poor peasants, age and sex groups of both classes contribute on average close to the socially-necessary labour time needed for their reproduction.

Breaking down the results by family-household gives a more nuanced picture of intrahousehold labour allocations. Using a difference in the ratio of the average per member labour expenditure by sex and age to necessary labour expenditure by sex and age of less than $\pm.15$ to define egalitarian family-households, overall some 18 per cent of family-households are egalitarian in their deployment of family-household labour. The variation around the average is not great, with the exception of the small peasantry. The finding that by this method only 13 per cent of the small peasantry are defined as egalitarian gives added weight to the fact that it should not be assumed that there is equality within the family-households of the small peasantry.

Looking at the family-households which may be defined as inegalitarian, it is relevant to note that women more often than men bear family-household labour requirements in excess of that dictated on the grounds of allocative equity. Indeed, in only 13 of the 72 inegalitarian family-households is labour transferred to men. It is further the case that within the rich peasantry in no family-households do males bear the brunt of labour transfers and most of the inequity in labour expenditure is borne by females. This is consistent with the findings of section 1 of this chapter and can be explained by reference to the additional demands placed upon females as a result of the stricter application of the Pakhtun social ideal. In the other three classes however the interesting result is that while the females are the recipients of more labour transfers relative to males, the vast bulk of the labour expenditure that is transferred goes to the children. Overall, some 44 per cent of children perform labour which exceeds that dictated on the grounds of allocative equity.

This result must be treated with caution, because of the problems associated with both the intertemporal aspects of labour expenditure and the estimate of the numeraire, as discussed in the previous section. It should also be noted that a proper evaluation of the economic contribution of child labour requires an analysis based upon the sex of the child,

and such information is not in the data under consideration. Be that as it may, the result is interesting, since it might be expected that children would not perform labour in excess of that dictated on the grounds of allocative equity but that part of their socially-necessary labour would be performed by their parents. In actual fact the opposite finding is demonstrated. Even given the weaknesses of equation (13), it would appear that a more thorough investigation of the role of child labour in the project area may be in order.

4. Intrahousehold labour allocations: method two

Equation (12) assesses average per capita male and female labour expenditure within family-households across the classes with respect to the average socially-necessary labour time needed to reproduce an adult of the small peasantry. Table 31 presents the results.

It can first be noted however that the estimated proximate socially-necessary labour time for an adult in Sarfaraz and Platoo stands at 2367 hours per year or 6.5 hours per day. Recalling Table 28 it is apparent that the average male works less than this amount, while the average female works more. It would therefore be expected that labour expenditure within the family-household would be transferred from the males to the females. Table 31 starkly confirms this expectation.

Table 31:   Intrahousehold labour transfers:
               method 2

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a): Average ratios of total to necessary labour-time
         for family-household members

Group	Rich peasant	Middle peasant	Small peasant	Poor peasant	All
Males	.559	.846	.771	.739	.793
Females	1.446	1.433	1.229	1.246	1.357

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b): Structure of labour transfers, in per cent

	Rich peasant	Middle peasant	Small peasant	Poor peasant	All
Egalitarian	0.0	12.5	13.0	27.3	13.6
(no. of hh)	(0)	(6)	(3)	(3)	(12)
Inegalitarian: transfer to					
i) males	0.0	4.2	8.7	0.0	4.6
(no. of hh)	(0)	(2)	(2)	(0)	(4)
ii) females	100.0	83.3	78.3	72.7	81.8
(no. of hh)	(6)	(40)	(18)	(8)	(72)
iii)all	100.0	100.0	100.0	100.0	100.0
(no. of hh)	(6)	(48)	(23)	(11)	(88)

Notes: Method 2 compares total to necessary labour time
by sex by defining total labour time as per capita labour
expenditure by sex and necessary labour time as average per
capita adult small peasant labour expenditure. These are then
compared across family-household groups. Children are not
considered because of unquantified intertemporal transfers.
Egalitarian is defined as when the ratio of total to necessary
labour time across family-household groups is within $\pm.15$. If
such is not satisfied the form of the inequality indicates the
pattern of redistribution of labour expenditure. Figures may
not sum due to rounding.

Source: SMDB.

Looking first at the average ratio of per capita total labour expenditure by sex to socially-necessary adult labour time, it is clear that in all four agrarian classes females perform on average disproportionately more labour as regards men. The extent of the disproportionality is such that in every class female labour expenditure on average exceeds the labour time necessary for the reproduction of an adult.

Looking next at the breakdown by family-household of the pattern of intrahousehold transfers of labour expenditure, several results are of interest. First, there appears to be a negative relationship between class location and the proportion of egalitarian family-households. The rich peasants have no egalitarian family-households, while just over 27 per cent of poor peasant family-households are egalitarian. It is interesting to note this in the context of the finding presented in section 1 above that poor peasant females work more in absolute terms on their family-household's farm than do poor peasant males. Overall, just under 14 per cent of family-households are egalitarian.

Turning to inegalitarian family-households, it is apparent that for the rich peasantry labour expenditure is transferred to females in every case. It is further the case that for the other three classes the vast majority of intrahousehold labour

transfers are to females. While there is a positive relationship between class and the proportion of women in receipt of inequitous labour transfers, some 83 per cent of middle peasants, 78 per cent of small peasants, and 73 per cent of poor peasants transfer labour expenditure to females and so shift the pattern of intrahousehold labour allocation against women. Overall, intrahousehold labour expenditure is transferred to females in 82 per cent of family-households, while labour expenditure is transferred to males in just under 5 per cent of family-households. Even given the weaknesses associated with this method, the pattern of sexually-based inequity in the distribution of family-household labour expenditure demonstrated in the two villages is remarkable in both its clarity and its strength.

Four conclusions can be drawn from both the general observations and the two methods used to estimate the intrahousehold labour allocation ratio. The first finding is that both methods support the implication of section 1 that there are only limited numbers of equitable family-households. The more favourable result is generated by the first method, but even by this method only 18 per cent of family-households are egalitarian. It thus appears that in the bulk of family-households under consideration some transfer of labour expenditure is occurring and as a result certain groups within

the family-household are disproportionately responsible for the reproduction of the family-household. Second, supporting the findings of section 1, in both methods intrahousehold labour allocation between males and females is biased in the direction of females, indicating an intrahousehold transfer of labour expenditure towards females. The strength of this finding in both section 1 and the second method makes it appear that the exactions of surplus appropriation are not shared within the family-household but are redistributed onto the shoulders of female members of the family-household. The second method further indicates that this labour transfer may be above that required for the reproduction of an adult. Third, supporting the results of section 1 both methods demonstrate that the agrarian dynamism of the rich peasants has not been to the benefit of all members of the family-household. Despite gaining the fruits of exploitation, rich peasant family-households are profoundly inegalitarian structures, with females being expected to perform labour well in excess of that dictated on the grounds of allocative equity. It is of interest to note that equation (12) generates the finding that the proportion of family-households that transfer labour to women increase with class location and that equation (13) produces almost the same result.

A provision must however be attached to these conclusions:

despite the fact that based on the assessment of available data it is clear that the transfer of labour expenditure is directed towards women in many cases, the first method demonstrates that the possible redistribution of labour expenditure towards children cannot be overlooked. A strong case exists for an intertemporal study of the pattern of the distribution of labour expenditure in order to assess whether or not the economic demands placed upon children are excessive.

One final conclusion can be made on the basis of the results of section 1 and the two methods. It is apparent that given Pakhtun concepts of the social ideal regardless of whether transfers of intrahousehold labour allocations are directed towards females or children the clear beneficiaries of such transfers are males. It appears plausible that the inequality within the family-household that is implicit within the Pakhtun social ideal has a material basis in the inequitable distribution of intrahousehold labour.

5.   Social indicators

Having demonstrated a probable material basis to inequality within the family-household, it is of use to look briefly at the social indicators derived from the SCARP Mardan database in order to see whether or not the findings of this work throw

any light on the indicators available and in particular those indicators associated with female status.

Table 32 summarizes a range of social indicators for Sarfaraz and Platoo. It does not represent the full extent of the social information available from the database. The first set of indicators concerns family-household size and structure. It should first be noted however that family-household size is the result of a complex process encompassing amongst other factors the economic position of the family-household, male child preference, child survival, and family-household partition.

Table 32 demonstrates that the rich peasants have the smallest average family-household size, and that in general the relation between family-household size and class location takes the form of an inverted U-shape. This finding is a surprise. While rich peasants are integrated into market relations and are thus not as dependent as the middle and small peasantry on the mobilization of family-household labour into the on-farm production process, the social prestige associated with wealth brings with it societal expectations of familial enlargement. It would therefore be expected that the richer peasants would have larger families. A clear reason for part of this anomaly can be advanced. One rich peasant

Table 32:   Social indicators of family-households

Indicator	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Average size	6.00	9.95	8.30	6.91	8.87
Dependency ratio	154.2	119.8	127.0	96.4	121.1
Consumer-worker ratio	164.2	159.7	157.9	147.1	157.9
U5MR	264.8	134.6	121.0	142.5	140.9
Crude morbidity rate	185.2	187.2	229.8	183.1	197.7
Female literacy rate	8.3	1.0	1.1	1.5	1.6
Female roles 1.obedience					
No	0.0	0.0	8.7	0.0	2.2
reserve	83.3	66.7	56.5	36.4	61.4
2.education					
own	0.0	0.0	13.0	0.0	3.4
shared	16.7	37.5	43.5	18.2	34.1

Notes: The dependency ratio is the ratio of young and old to adult members of the family-household. The consumer-worker ratio is the ratio of family-household consumers to all working members of the family-household. U5MR is the under-five mortality rate per thousand. The crude morbidity rate is the amount of illness per thousand. The female literacy rate is in per cent. Female roles 1 is the percentage who disagree or have reservations about always obeying their husband. Female roles 2 is the percentage where decisions regarding female education are shared between husband and wife or made by the wife alone.

Source: SMDB.

family-household has been subject to partition, resulting in a unit consisting of only two members. Yet taking this into account only raises the average size of rich peasant family-households to 6.8 members. Two other reasons behind low family-household size can be hypothesized. First, as detailed in Table 32 the female literacy rate, while low, is highest amongst the rich peasantry. There is a wealth of evidence from around the world to suggest that there is an inverse relationship between the education of females and family-household size. Second, recalling the point mentioned earlier that female children amongst the rich peasantry may continue to work while male children do not, it is of interest to note that in 3 of the rich peasant family-households out of 14 children 11 do not work. This possibly indicates proportionally more male children, which because of male child preference would in turn account for the smaller family-household size.

As for the poor peasants the smaller size of family-household represents a response to a lack of economic opportunities. This is borne out by the information on dependency and consumer-worker ratios, both of which show that while the poor peasants do not have the largest family-households they do have the largest workforce. It can be hypothesized that if more work opportunities were present for the poor peasantry,

the response would be an increase in family-household size.
This hypothesis was supported by field investigators from the
original evaluation during discussions held in 1992. It was
also supported by farmers in the two villages. The dependency
and consumer-worker ratios also show that the rich peasants
have proportionately the smallest familial workforce of any
class, as would be expected given the content of class status
that has been advanced. It is interesting to note however
that the variation across the classes in the consumer-worker
ratio is not large. This is perhaps indicative of the low
level of development in the project area as a whole.

Two indicators of health status are given. They show no clear
results. The under-five infant mortality rate has been
consistently argued to be the single most important indicator
of development (see U.N.I.C.E.F. [1990]). It would therefore
be expected that an association between class and the under-
five infant mortality rate would be present. The under-five
infant mortality rate in Table 32 refutes this expectation.
Paradoxically, far and away the highest under-five infant
mortality rate rests within the rich peasantry. The reason
for this result lies in the fact that two rich peasant family-
households suffered very high levels of under-five death. A
possible explanation for this, which unfortunately cannot be
confirmed, is that these two family-households had older adult

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females. If so, the older women might have lost more children in their early child-bearing years, due to a lack of adequate sanitation, hygiene and medical care in an area where levels of wealth have been low. A further possible explanation, which also cannot be confirmed, is related to the male child preference noted above and the high female age-specific mortality rates reported by the SCARP Mardan evaluation team. It is well documented in South Asia that male child preference can lead to female infanticide, whether it be deliberate or the result of a sex bias in the distribution of food to children (see for example Miller [1981]). It may thus be the case that amongst the rich peasantry smaller family-household size and a very high under-five infant mortality rate are related to the male child preference which might be indicated by the small numbers of rich peasant children who work.

The data on crude morbidity rates also gives no indication of a relationship between morbidity and class. With the exception of the small peasants the magnitude of variation across the classes is very small. Such a result is not all that surprising given the low level development in the region and hence the low level of healthcare that is available in the villages. At the same time however conversations with farmers and field investigators revealed that in the two villages healthcare is a very low priority amongst farmers when it

comes to the disposition of resources. There is in general a lack of use of that healthcare which is available. It is further the case that those limited monies spent on healthcare would in all likelihood be spent on male healthcare.

Three indicators of female status are given. One is objective and two are subjective. The objective indicator is female literacy. Two points stand out. First, that female literacy rates are in general almost non-existent. It should be noted in this context that male literacy rates in the project area are also very low, standing at 12.2 per cent. Second, that the rich peasants stand far and away above the other classes in the extent to which females are literate. Just over 8 per cent of females in the rich peasantry are literate, which is an extremely favourable percentage given the low literacy rates in the project area. For the other classes, the figure is low enough to be insignificant.

The two subjective indicators of female status represent responses to questions asked of females in the project area. The first question, labelled 1 in Table 32, asked women whether they should always obey their husbands. The percentages that replied negatively or with reservations are given in Table 32. It is clear that only some 2.2 per cent of women surveyed actually believed that women should not always

obey their husbands. It is also however clear that over 61 per cent of women expressed reservations with the question. The reservations were strongest in the rich peasantry, where it has been demonstrated that the position of women in terms of labour expenditure is the most severe. The reservations were weakest in the poor peasantry, where the second method in section 4 indicated that the largest proportion of egalitarian family-households were located. Reservations were strongly present in the middle and small peasantry; interestingly, it was the latter group which contained the women who disagreed outright with the question.

The second question, labelled 2 in Table 32, asked whether or not women bore the responsibility within the family-household for the decision to educate female children. The results indicate that only 3.4 per cent of women took the decision themselves. The decision was shared in a minority of family-households, indicating that in the bulk of family-households males decided on the education of females. It is interesting to note that the only class where females had a role to play in the decision in the majority of cases were the small peasants. It is also of interest to note that the class where the females had the least say was the rich peasants.

Some inferences regarding female perceptions of gender status

and gender relations can be drawn from the responses to these two questions. The first is that while male rich peasants may subscribe to the Pakhtun social ideal concerning the comportment of women, females are much more willing to question some of its basic norms concerning the absolute authority of men. It is of interest that this should be the case, given the finding of the SCARP Mardan evaluation team that an inverse relationship existed between income and female influence within the family-household. Given the finding that the sexual division of labour amongst the rich peasantry has grown much sharper, female unwillingness to subscribe to male authority could lead to intrahousehold conflict. This might possibly render the position of the rich peasant family-households somewhat less secure than has been argued so far. It is possible that the education received by a few females will accentuate this unwillingness to subscribe wholeheartedly to male authority. The second point that can be made concerns the small peasantry. It has been argued in this work that in the project area the small peasantry is subjected to the greatest economic pressures. It is therefore of interest that female members of the small peasantry are more affirmative in their expressions of their willingness to take responsibility for family-household decisions over female education while at the same time being hesitant about unconditionally following male dictates. Females in the small peasantry may not accept

a rigorous definition of the Pakhtun social ideal. Similarly, the middle peasantry appears to demonstrate a similar questioning of the Pakhtun social ideal. It would thus seem that the interpretation of the state of gender relations in the project area would be very dependent upon which sex was asked. From the perspective of women, it is apparent that gender relations are much less entrenched than would be presupposed by men, by the dominant ideology, and by the data on the division of labour in the project area.

7. Conclusion

It would appear exploitation does not effect all members of the family-household equally. The transfer of intrahousehold labour allocation towards females means that "exploitation comes home", in the sense that it is inequitably redistributed towards females. The exactions of surplus appropriation made by the landlords upon the middle and small peasants are thus borne disproportionately by the female members of the class. The surplus appropriation made by rich peasants and others upon poor peasants is borne disproportionately by the female members of the class. Finally, the benefits of exploitation are not shared equally within the rich peasantry but are disproportionately directed towards the male members of the class.   In the bulk of cases in the project area the subordinate position of women appears to have a material basis

in the redistribution of labour expenditure. The ideology of patriarchy in Sarfaraz and Platoo would thus have a material base. This is consistent with the marxist analysis of ideology presented in Chapter Three.

The ideological form taken by the material inequities demonstrated above does not however go completely uncontested. As a result, it could be expected that the inegalitarian family-households found above would be sites of resistance by women. It is however unlikely that such resistance would take overt form because of the resilient power of the Pakhtun social ideal; rather, it would be witnessed in the everyday forms of resistance that are the "weapons of the weak" (Scott [1986]). It is apparent that any potential transformation in the gender relations in the project area must address itself to both the material and the ideological aspects of oppression.

NON-AGRICULTURAL CLASSES IN SCARP MARDAN

1. Rural proletarians and petty entrepreneurs

Of the family-households sampled in Sarfaraz and Platoo and included in the data under consideration, some 12 do not derive their livelihood from agricultural activities. This was ascertained on the basis of the agricultural statistic delineated in Chapter Six. In addition, as also noted in Chapter Six two family-households could be classed as landless agricultural labour. This chapter will summarize the economic characteristics of these remaining 14 family-households. While it is recognized that the small number of observations qualifies the data, such an exercise remains of interest for comparative purposes. It will not be necessary to introduce any new concepts in this chapter, although fresh arguments will be made.

Two classes are examined in this chapter. The first is termed rural proletarians. This consists of both the landless agricultural labourers and those family-households which were deemed to be non-agricultural and which derived in excess of

75 per cent of their income from wages. These family-households are grouped together because of the ease of substitution between agricultural and non-agricultural waged work in the project area. In that the bulk of non-agricultural waged work is in construction and is unskilled, the constraint to such substitution is employment opportunities and not an inability to substitute per se. These family-households represent a rurally-based working class.

Membership of the rural working class can be the result of several circumstances. It can reflect an exhaustion in the self-employment possibilities in a region. Rates of growth in yields thus do not match rates of growth in the labour force, leading to a necessary alteration in the reproductive strategies of some family-households if crisis is to be avoided. It could also reflect the growth of capitalist agriculture. The rationalization of production amongst surplus generators will boost the demand for labour, while those with low returns to family-household labour expenditure will meet the demand in order to supplement their incomes. It would be expected that over time a shift in the composition of the labour force would occur, as cultivators engaged in some waged work would become waged workers with small plots. This process might be accelerated if the eviction of tenants by emerging capitalist farmers occurs. The process may also be

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affected by monopolistic characteristics in the land market. Membership in the rural working class could also reflect the growth of industrial employment, in both the rural and urban areas, giving a higher return to labour than that obtained on the farm. Finally, artisans, peddlers, hucksters and the like will witness the returns to waged labour; those who are unable to accrue the resources necessary to pursue income-augmenting petty bourgeois activities will often shift into the working class.

The second class to be considered consists of only three family-households. Nonetheless, these family-households share the common characteristics of having large non-land non-farm assets and deriving the bulk of their income through the mercantilist activities of transport and trading. These family-households represent a rural petty-bourgeois strata, and shall be termed petty entrepreneurs. This class has a long historical provenance, having emerged out of the mercantile activities that existed long before the British took control of South Asia. While the goods and services that are traded may have changed to some extent, the contours of the reproductive strategy pursued by these family-households is less likely to have substantially altered.

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2. Farming activities

While the rural proletarians and petty entrepreneurs are essentially non-agriculturalists, this does not mean that they will necessarily cease all farming activity. It is rather the case that predominantly non-agricultural incomes can be supported to a lesser or greater extent by a combination of crops and livestock production which would be used for family-household consumption, market sales or a combination of both. Although subsidiary, the effects of such production may not be insignificant. It is therefore sensible to examine the nature of any farming activity pursued by the non-agricultural classes.

Table 33 summarizes the structure of work performed by the non-agricultural classes. The characteristics of the holdings used by the non-agricultural classes are then detailed, followed by the labour appropriation witnessed on the hold-ings.

Looking first at the structure of labour expenditure, unlike the overall agricultural orientation demonstrated by the entire set of family-households examined by definition the rural proletarians and the petty entrepreneurs devote the majority of their non-domestic work to non-agricultural activities. The figures merely illustrate that the rural

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Table 33:   Summary of characteristics of operated
              holdings of non-agrarian family-households

	Rural proletarians	Petty entrepreneur	Average
Ratio of non-agricultural to agricultural work(a)	1.1519	2.349	.277 (b)
Acreage:			
0.00 -- no.	3	0	3
0.00 -- area	0.00	0.00	0.00
0.00 -- %	0.00	0.00	0.00
.01-<1- no.	4	2	6
.01-<1- area	.567	.25	.461
.01-<1- %	28.3	28.6	28.3
1-<2.5- no.	4	1	5
1-<2.5- area	1.438	1.25	1.40
1-<2.5- %	71.7	71.4	71.7
All -- no.	11	3	14
All -- area	.729	.583	.698
All -- %	100.0	100.0	100.0
Tenurial form:			
LOO	4	2	6
LOT	3	0	3
LLT	1	1	2
LL	3	0	3
All	11	3	14
Labour hours appropriated:			
$H_i - H_o$	-296.7	80.5	--
$L_o - L_i$	-644.6	5080.4	--
All	-854.6	5160.9	--
Rent per total no. of FHH paying rent	929.1	1120.0	967.3

Notes: (a) excludes domestic work.   (b) is all farm
family-households.   For tenurial form, see Table 3.   For
labour hours appropriated, see Table 8.   Rent is in rupees.

Source: SMDB.

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proletarians and the petty entrepreneurs are indeed non-agricultural classes. This is especially so for the petty entrepreneurs. The much lower figure for the rural proletarians supports to some extent the contention made above concerning the ease of substitution between agricultural and non-agricultural employment in that it shows that while non-agricultural work is the norm a substantial amount of agricultural work is performed. This contention was further supported by the field investigators and the farmers when they were interviewed in 1992.

Turning next to the structure of the holdings, Table 33 demonstrates that the 3 petty entrepreneurs and the bulk of the rural proletarians have some land. While the holdings are small, they are by no means insignificant given the small size of holdings in the project area. Over 70 per cent of the members of the two classes have holdings of between 1 and less than 2.5 acres, and the average size of holding in that acreage group is 1.4 acres. It can be hypothesized that holdings of such size could be used to buttress non-agricultural earnings and so improve the overall economic security of the family-household. Whether such is indeed the case is examined in later in this section.

Looking at the tenurial form of the holdings, 7 of the rural

proletarian family-households own all or some of the land they work, 4 are tenants of some kind, and 3 are landless. Amongst the petty entrepreneurs 2 family-households own all the land under their control. It is interesting to note that once again a large proportion of small holdings tend to be owned rather than leased. This might tend to suggest that as in the case of the poor peasantry the rural proletarians have recognized the exactions of surplus appropriation in a monopolistic land market and reproductive strategies have therefore been transformed in order to maximize returns to family-household labour expenditure.

Looking next at the appropriation of labour hours, it is important to recall that these figures represent appropriations through the performance of agricultural work. The labour-exploitation terms are not designed to capture the surplus value extracted in non-agricultural work, where the bulk of the extraction from the rural proletarians can be expected to occur. It is for this reason that the labour hours appropriated through hiring and leasing from the rural proletarians, while negative, is much less than that demonstrated in Table 8 for the exploited agricultural classes. The bulk of the rural proletarians are not engaged in leasing-in land for agricultural production or working as hired-out farm labour.

It is interesting to note the positive surplus appropriation of the petty entrepreneurs. The figure is well over 10 times the figure detailed for the rich peasantry in Table 8. The figure is large because one petty entrepreneur family-household supplements its income by renting out the land they possess. The use of ground rent as a source of income complements the pre-capitalist origins of the reproductive strategy of the family-household and is therefore not surprising. Indeed, the pre-capitalist reproductive strategy of the family-household is supported by the fact that no rent accrues to it in the form of cash; it all accrues in kind through sharecropping arrangements.

The average size of operational holding for the other two petty entrepreneur family-households is .75 of an acre. Through a combination of non-agricultural orientation, renting out of land and small retained holdings it might be expected that the agricultural activities of the petty entrepreneurs, while not ignored, have a much lower priority than the agricultural activities of the rural proletarians and as a result would have low returns. This contention is supported in more detail further in this section.

Turning to rent paid by the non-agricultural classes, the main point to emerge from Table 33 is that the average rent paid by

tenants amongst the two classes is less than the rent paid by agriculturalists documented in Table 9. This cannot be put down solely to the small size of holding, as the poor peasantry had smaller holdings and yet paid an average rent of Rs.1140. It could however be the result of a different pattern of output, one which places less emphasis on those agricultural products upon which rents are based, that is to say wheat, sugarcane and corn. The interesting implication of the lower rents charged to the non-agricultural classes is that it renders possible a greater relative return from agricultural activities than that enjoyed by agricultural classes because the claims of property on output are less for the non-agricultural classes. This will be examined in more detail next, when net output is considered.

Table 34 summarizes the non-agricultural classes' non-land assets as well as the inputs they use and the outputs they produce in their agricultural activities. Examining non-land assets first, several points can be made. The asset base of the rural proletarians is on average in excess of Rs.1000 less per holding than that of the poor peasants, as detailed in Table 10. The average size of assets per family-household worker is also less than that of the poor peasants. The small asset base is heavily concentrated, in that the overwhelming bulk of assets are livestock. Livestock would be favoured for

Table 34:   Summary of assets, inputs and outputs
              per non-agrarian family-household, in
              rupees

	Rural proletarians	Petty entrepreneurs
All assets	2587.0	28665.0
of which:		
%livestock	97.7	6.7
%non-farm non land assets	0.0	93.0
Assets per FHH worker	700.9	5953.7
All inputs	5516.9	3131.5
of which:		
%capital	7.3	18.4
%livestock	42.4	25.0
%energy,transport, processing	29.6	40.5
Inputs per FHH worker	1484.5	822.7
Gross output	8592.6	3330.9
of which:		
% consumption	18.2	38.3
%inputs	38.4	24.5
%marketed	32.0	0.2
%retained	9.1	35.0
Output per FHH worker	2298.5	804.7
Farm labour output	3075.7	199.4
Farm disposable output	2737.8	-174.0
Farm labour surplus	601.5	-1563.8
Farm disposable surplus	263.6	-1937.3
FDS per FHH worker	158.5	-529.2

Notes: FDS is farm disposable surplus. Net output
measures are defined in Tables 18 and 19.   FHH is family-
household.   Inputs and outputs are per year.

Source: SMDB.

four reasons. First, they can utilize both formal and informal common property. Formal common property is termed <u>shamilat</u>. For rural proletarian livestock production as a whole this is likely to be of less importance, as while it is theoretically allocated on the basis of owned land it is in practice claimed by the most powerful and retained through judicial and extra-judicial means. <u>Shamilat</u> might however be important to individual rural proletarians. Informal common property is land which is owned but whose owners do not enforce their rights by claiming rent. Such land may be beside a tank, a canal or a minor road. It may be water-logged, saline, or even just lying fallow. Such disused land can be usually used without injunction. The use of common property means that rural proletarians are not as dependent on the size of holding to generate a favourable return. The second reason livestock would be favoured as an asset is because it can be communally supervised by another member of the village. This is done in return for a daily payment. Along with communal supervision goes the opportunity for livestock to graze on the land of another farmer. Third, the work effort involved with livestock is mainly supervision. This can be devolved onto non-waged members of the family-household, and most particularly young people. The opportunity cost of production is thus lower. Fourth, because livestock can serve as the source of joint commodities the

relative returns they garner may be higher than that from crops. All four reasons make it rational for those family-households which are primarily waged to produce livestock products if they are seeking to supplement their incomes through agricultural production.

The low level of assets of the rural proletarians can be contrasted with the very high level of assets of the petty entrepreneurs. The asset base of the petty entrepreneurs exceeds that of all other classes bar the rich peasantry. Like the rural proletarians, the assets of the petty entre-preneurs are highly concentrated. For this class they are concentrated in the non-farm non-land category of assets. Quantitative figures conceal the fact that for the petty entrepreneurs non-land non-farm assets consist primarily of motor vehicles that are hired out. Farm assets are smaller in size than that of the rural proletarians. This finding serves to support the position taken above that compared to the rural proletarians the petty entrepreneurs place a much lower priority on using farm activities to supplement non-farm activities.

Looking next at agricultural inputs, when compared with Table 15 Table 34 shows that both non-agricultural classes use fewer inputs per holding than the agricultural classes. This

reflects the lower priority to farm activities on the part of the petty entrepreneurs and the more narrowly-focused concern of the rural proletarians to support livestock. It can be hypothesized that the greater specialization of the rural proletarians might produce scale economies in input utilization. This hypothesis was supported by a field investigator when interviewed. The hypothesis of greater specialization is further supported by the fact that in the rural proletarian structure of inputs livestock maintenance figures prominently. Energy, transport and processing are also prominent. This mirrors a similar structure amongst the poor peasantry. It is interesting to note that inputs per family-household worker amongst the rural proletarians exceeds that of the poor peasantry. This suggests a greater than expected orientation towards agricultural activities. This finding is discussed towards the end of this section.

The inputs of the petty entrepreneurs are very low, both per holding and per family-household worker, reflecting the extent to which the class downgrades its participation in agricultural activity. The important role of energy, transport and processing in the structure of inputs may be due to data misreporting, in that these inputs may not have been used for agriculture but rather as part of the mercantile activities that form the basis of the reproductive strategy of

the class.

Table 34 next details output from agricultural activities. Turning first to the petty entrepreneurs, the level of gross output is very low. Compared to the figures for the poor peasantry detailed in Table 17 the petty entrepreneurs produce per holding a third of that produced by the poor peasantry. The bulk of the output that is produced is used for family-household consumption or is retained. It can be hypothesized that given the seeming lack of priority accorded to farm activity, that which is retained from self-production is also destined for family-household consumption. This is because the market orientation that might be expected from the agricultural activities of the class would require more efficient self-production.

The rural proletarians give intriguing results in terms of gross output. For a start, they produce a little more per holding and per family-household worker than do the poor peasantry. It would be of interest to know the precise structure of output with regard to the relative importance of crops versus livestock products. This information is within the SCARP Mardan data but is, unfortunately, not part of the current data set. It seems a reasonable hypothesis that the superior productivity of the rural proletarians is a result of

a greater degree of specialization, primarily in livestock products which are not as intensive in their use of on-farm inputs. Of that which is produced, a much larger proportion is marketed than is used for immediate consumption. This could also support the thesis of specialization. It should be noted that the marketing of output does not obviate the argument above that the rural proletarians use their holdings to support their economic position. The marketed output will generate cash, which can then be used to purchase commodities used in the reproduction of the family-household.

The last part of Table 34 details the notional surplus and deficit produced through agricultural activities. The two most important measures are farm disposable output and farm disposable surplus. Given the lack of attention paid by the petty entrepreneurs to family-household farming activity, it is not surprising that both these figures register deficits. The output generated is insufficient to meet the claims of property owners on output, while the returns to the labour engaged in agricultural activities are less than the returns that could be attained in alternative pursuits. With such results, it is not surprising that a preferred option within one petty entrepreneur family-household is to lease out land and receive payment in kind.

Looking at the rural proletarians, the superior performance in terms of gross output is matched by a superior performance in terms of net output.   After claims as a result of property ownership are made, the net output of the rural proletarians exceeds that of both the small and the poor peasantry. Granted, the differences between Tables 18 and 34 are not large, but it exists nonetheless.   Evaluating returns to labour, the net farm disposable surplus per holding is positive for the rural proletarians.   This is a significant result, as the only other class with a positive net return is the rich peasantry.

The above finding could plausibly support the argument that the rural proletarians should become more heavily involved in agriculture, as the returns appear favourable. However, such an argument is mistaken.   While agriculture by definition generates at most a quarter of rural proletarian income it is indicated in Table 33 that it is responsible for 46 per cent of total labour expenditure.   Higher returns to non-agricultural activities are thus evident in the data that has already been presented. It still however remains necessary to explain why the rural proletarians are more productive in their agricultural pursuits than the small and poor peasantry.

A central dynamic effect of capitalist development is the

emergence of a working class. Such a process must of necessity involve a transformation in the reproductive strategy of the family-household. The family-household shifts away from being oriented towards agriculture and becomes oriented towards non-agricultural pursuits focused upon participation in the labour market. In the course of such a transformation, the security previously provided by agriculture is sought out in the form of permanent labour contracts.

Permanent labour contracts are rare in the Peshawar valley. In urban areas of Peshawar, Mardan and Charsadda there is however a high demand for reliable, compliant and hard-working labour. Workers know that the absolute level of rewards in urban employment substantially exceed that of casual rural employment. Workers with a reputation for hard work find that even though they do not have a permanent contract they are in practice continually rehired over the life of a project. They are the last employees to be dismissed by firms when a project is completed. They also find that when they are dismissed other jobs are immediately available. Urban waged employment can thus be remarkably stable even if contracts formally last for only a short period of time. Amongst the rural proletarians of the SCARP Mardan region it is the achievement of stable labour contracts which has permitted agriculture to become a subsidiary economic activity. It is thus the case

that many rural proletarians commute daily into Mardan and Charsadda, having secured stable urban employment.

The security gained through participation in labour markets ensures familial physical and social reproduction. Market participation however also transforms the economic horizon of the family-household. Agricultural self-provision gives way to a recognition of the market opportunities available for those agents who still retain subsidiary agricultural activities. Like the rich peasants, for the rural working class it is apparent that certain agricultural activities generate higher rewards. Unlike the middle, small and poor peasantry the range of products produced does not have to include goods capable of meeting some family-household consumption requirements. These goods can be obtained from markets. The experience of market participation and the security of labour contracts witnessed amongst the bulk of the rural proletarians in Sarfaraz and Platoo together promote subsidiary agricultural activities to become more specialized in order to garner higher returns. As has been implied above, livestock and livestock products represent such a specialized activity. Security also means that such production can expand to take full advantage of available limited agrarian resources without the loss of employment.

The constraints faced by the peasant classes are different. Although engaged in labour markets to differing degrees the peasant classes are still primarily employed in the agricultural sector. Waged work which is undertaken is predominantly on a casual basis. Their reproductive strategy still requires that they produce a range of products which can be used in familial physical and social reproduction. With a greater reliance upon the land they remain attached to it and question the uncertainties associated with participation in the labour market. This is so despite the insinuation of capital into agriculture and the resultant widening of differentials between cultivating families. Peasant classes thus cannot specialize to the degree available to those family-households with a peripheral involvement in agriculture. It is therefore more difficult, but not impossible, for the peasant classes to capture scale economies.

As a result of these circumstances, the economic position of the rural working class is superior to that of the small and poor peasantry. It is interesting to note that studies carried out at the turn of the century found similar results. For example, in the 1890s both Kautsky and Lenin found that rural working classes had a superior economic position when compared to poorer peasants (see Kautsky [1980]; Lenin [1964]). Both argued that this was due to the progressive

dynamism of capitalist industrialization.

3. Income and expenditure

If the rural proletarians of the SCARP Mardan project area are in a superior economic position when compared to the position of many cultivators, it would be expected that this could be witnessed in terms of income. Table 35 summarizes the income and expenditure of the non-agricultural family-households. Looking first at the income of the rural proletarians, it is apparent that the expectation noted above is indeed present. Compared to Table 21, per holding and per family-household worker the rural proletarians have an income that exceeds that of the small and poor peasant classes by at least 50 per cent. Looking at the structure of the income, by definition over three-quarters of it comes from wages. The marketing of farm produce provides over 22 per cent of income, and the other potential sources of income are negligible. In that amongst the agricultural classes non-farm income comprises on average only 8 per cent of total income, this indicates a substantive specialization in terms of secondary income sources on the part of the rural proletarians.

As regards the petty entrepreneurs, Table 35 shows an income level which might be considered low given the asset base detailed in Table 34. However, although the returns from

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Table 35:   Summary of income, expenditure and
             resource balance per year of non-
             agrarian family-households, in rupees

	Rural proletarians	Petty entrepreneurs
All income	15184.5	16163.9
of which:		
%wages	76.2	7.2
%marketed farm output	22.6	0.1
%other inputs sold	0.0	56.4
%other income	1.2	36.4
Income:		
per FHH worker	3883.4	4075.3
per capita	2069.7	2348.3
All spending	17931.6	51011.9
of which:		
%farm invest-ment	23.0	0.6
%non-farm investment	0.0	62.7
%consumption	60.9	23.0
Spending:		
per FHH worker	5117.9	15534.5
per capita	2557.9	9216.3
Net resource balance	-329.7	-7397.2

Notes: Net resource balance is defined in Table 24.   FHH
is family-household.

Source: SMDB.

petty mercantile activities can often be quite low, the income levels of the petty entrepreneurs are exceeded only by the rich peasants and the middle peasantry; the income garnered by the petty entrepreneurs exceeds the average income of the agrarian classes. It is interesting to note that the bulk of income is derived from input sales or other income. Detailed consideration of the data reveals that other income primarily comes from mercantile activities; therefore, these figures could together be taken to indicate that the petty entrepreneurs are heavily reliant upon income from mercantile activities.

Examining the expenditure patterns detailed in Table 35, it can first be noted that for the petty entrepreneurs the expenditure figure is the highest of any class in the two villages. This is the case both per family-household and per family-household worker. It must be admitted that it is entirely unclear where the resources come from for such spending. It does not come from income, and while it might come from additional non-sustainable cash flows, it must be recalled that the data detailed below in Table 36 on such flows is of questionable quality and as such much be cautiously assessed. Either the expenditure figure is inaccurate, the additional cash flows figure is accurate, or there has been misreporting amongst the petty entrepreneurs. It is

not possible to judge which may be the case.

Looking therefore at the rural proletarians, it is shown in
the table that they spend on average just under Rs.18000 per
family-household. This is Rs.5000 more than the figure for
the poor peasantry listed in Table 23, but less than the other
agrarian classes. Per family-household worker the rural
proletarians spend double that of the poor peasantry and about
the same as the small peasantry. The bulk of money, some 60
per cent, is spent on consumption, indicating the market reli-
ance of the class in its reproductive strategy.

The final figures given in Table 35 detail the net resource
balance of the non-agricultural classes. The method of
computing the net resource balance was detailed in Chapter
Eight. The figure for the petty entrepreneurs must be treated
with caution. While it would appear that they are in the
greatest deficit of any of the classes, the figure is affected
by the unaccountably high level of expenditure. Looking at
the figures for the rural proletarians, it would appear that
good performance in their agricultural activities does not
offset the deficit that exists on their cash transactions.
The net resource deficit of the rural proletarians is Rs.330.
Compared to the figures given in Table 24, this is quite
favourable; the only class in a better position is the rich

peasants. Using labour markets as a source of economic security, specializing in subsidiary agricultural activities, and avoiding the compulsions of surplus appropriation by landlords seems to generate economic results which can only be bettered by dynamic agrarian accumulators. It should however be noted that the surplus value appropriated from rural proletarians as a result of their non-agricultural activities has not been accounted for in this figure.

Overall, it would appear that in terms of income, expenditure and the net resource balance the rural proletarians are in a superior economic position than the poor peasantry, while in terms of income and net resource balance the rural proletarians are in a superior economic position than the small peasantry. This is consistent with the argument that the development of capitalism can be progressive in that it can enhance the economic welfare of selected agents. It is also consistent with studies conducted at the turn of the century which were mentioned above.

Table 36 gives the additional cash flows received by the non-agricultural family-households. It must be reiterated that these figures should be treated with care as the debt and remittance data is unreliable. Be that as it may, Table 36 gives some information of interest. For both non-agricultural

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Table 36:   Additional cash flows by type per year
               for non-agrarian family-households,
               in rupees

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	Rural proletarians	Petty entrepreneurs
Asset sales	2068.2	36298.7
(%)	(59.4)	(84.0)
Mobilized savings	0.0	0.0
(%)	(0.0)	(0.0)
Remittances and gifts	961.7	55.1
(%)	(27.6)	(0.1)
Net debt	451.5	6825.9
(%)	(13.0)	(15.8)
All flows	3481.4	43179.7
(%)	(100.0)	(100.0)

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Notes: Net debt is defined in Table 22.

Source: SMDB.
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classes, debt and remittances appear to be much less important in terms of the structure of non-sustainable cash flows. It should be noted however that the absolute level of new debt acquired for the petty entrepreneurs is quite high at Rs.6826. For both classes, the main source of such flows is the sales of assets. An asset sale is a non-sustainable flow par excellence, in that once sold it is lost. For the petty entrepreneurs, asset sales account for 84 per cent of non-

sustainable additional cash flows, while for the rural proletarians asset sales account for just under 60 per cent of additional cash flows. While asset sales might therefore support the high levels of expenditure detailed for the petty entrepreneurs in Table 35, the low absolute level of all flows for the rural proletarians indicates the far lower degree of importance attached to the liquidation of assets amongst the latter class.

Taken as a whole, the information in this section supports the argument that the rural proletarians are in a favourable economic position when compared to some of the agrarian classes. Judgement on the petty entrepreneurs is more difficult, but in terms of income they do seem to be among the larger-income classes. Both classes would thus seem to exploit favourably the economic circumstances available to them; one, the rural proletarians, through the use of a capitalist reproductive strategy, while the other, the petty entrepreneurs, utilize a pre-capitalist reproductive strategy.

4. The sexual division of labour

It is now possible to assess whether the benefits of a relatively more secure economic position are equitably distributed throughout the family-household in terms of the amount of labour that is expected from members of the family-

household.   It can be recalled that the similar exercise

conducted in Chapter Nine proceeded from general observations

to the use of the methodology derived from Folbre, which in

practice produced problems concerning both an appropriate

measure of socially-necessary labour time and intertemporal

flows of labour expenditure.   To these problems can be added

another when considering the non-agricultural classes. While

in theory one value of socially-necessary labour time should

prevail in an economy, in practice such will not be the case

in a poor country because the type of work, the conditions

under which it is performed and the socially-determined moral

and historical element will radically differ between peasants

and non-peasants.   This means that the two numeraire values

ascertained in Chapter Nine for the intrahousehold labour

allocation ratio are inappropriate when considering the non-

agricultural classes. At the same time however the available

data does not permit an assessment of the socially-necessary

labour time of the non-agricultural classes.   The following

approach is therefore used in this section. First, considera-

tion is given to the information contained in the raw data

concerning the sexual division of labour amongst the non-

agricultural classes.   The strong evidence of inequality

contained therein is deemed to justify the use of the intra-

household labour allocation ratios as derived in Chapter Nine,

but for comparative purposes only.

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Table 37 summarizes the average labour expended per family-household by the age and sex groups of the non-agricultural family-households. It also details the structure of labour expenditure. Focusing first on the rural proletarians, the amount of work performed is very large. Compared to the figures given in Table 28, the males of the rural proletarians work more than any other class bar the middle peasants. The bulk of this work is hired-out, primarily in non-agricultural activities. The economic security of the stable labour contract thus has a price in the form of the amount of work which is expected to be performed. Females within rural proletarian family-households have a longer working day and year than any other class. They work over 100 hours a year more than the females of the rich peasant class. While female work is predominantly domestic, a good proportion of it is performed in the family-household's agricultural activities. Part of the reason for the longer work period is thus the responsibility borne by women for livestock production when males are engaged in paid employment. The economic security of the stable labour contract is thus not translated into shorter labour expenditure for women. The main beneficiaries of this situation are children, who work less than the children of the agrarian classes. It should be noted however that the difference is not great. Children of the rural proletarians engage in all three types of labour: domestic,

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Table 37:   Average labour expenditure of family-
             household members in hours per year
             and structure of labour expenditure
             of non-agrarian family-households

	Rural proletarians	Petty entrepreneurs
Males	1940.8	1864.4
of which:		
domestic, %	1.1	0.0
own farm, %	14.9	5.7
hired-out, %	84.0	9.8
other, %	0.0	84.5
Females	3541.9	2617.4
of which:		
domestic, %	87.5	84.1
own farm, %	12.2	15.9
hired-out, %	0.2	0.0
Children	425.9	24.9
of which:		
domestic, %	35.5	33.6
own farm, %	35.5	33.6
hired-out, %	29.0	32.9

Notes: As in Table 29.

Source: SMDB.

own-farm and hired-out.

Looking at the petty entrepreneurs, the male members of the
family-household work an amount almost equivalent to the
average amount of labour performed by males engaged in
agriculture. It amounts to 1864 hours per year and primarily
falls into the category "other", which in this case consists
of mercantile activities. It is of particular interest to

note that while females within the petty entrepreneurs perform 800 hours a year more work than men, they work the least of any of the classes under consideration. Females work some 300 hours less a year than the females of the small and poor peasantry.   Female work is primarily composed of domestic work, but a substantial amount of it is devoted to the minor agricultural activities engaged in by the class.   It is probable that females of the petty entrepreneurs perform the least amount of work of any class in the two villages because of the lack of importance attached to agricultural activities. Such a proposition was strongly supported by field investigators when they were interviewed in 1992. Be that as it may, the average working day for a woman in the petty entrepreneur class remains over 7 hours a day, which is more labour than that performed by the males of any class in the two villages.   Given the findings of method one in Chapter Nine that children may be the recipients of inequitable labour transfers, it is interesting to note that children of the petty entrepreneurs perform on a yearly basis almost no work at all.

Considering the evidence contained in Table 37 as a whole, it is clear that strong evidence exists of an inequitable intrahousehold sexual division of labour amongst the non-agricultural classes of Sarfaraz and Platoo. Women consist-

ently work far in excess of what is performed by men. This clear finding makes it legitimate to compare whether the transfers of labour expenditure between members of the non-agricultural family-households resemble those within the peasant classes of Sarfaraz and Platoo if similar numeraires are used. As before, two methods are used.

Table 38 details the results derived from the application of method one. It will be recalled that method one compares the average per member labour expenditure by age and sex per family-household to the average labour expenditure by age and sex undertaken within the small peasantry. In terms of the class-based ratios of averaged total labour expenditure to necessary labour time, it is apparent that this method generates small differences between the overall ratios for the sex groups. It appears that the men of the petty entre-preneurs may be performing slightly more labour expenditure than that which would be required on the grounds of intra-household equity. Amongst the rural proletarians, the pattern is reversed. In both cases however the differences are not great.

Turning therefore to the family-household by family-household tabulation of intrahousehold labour allocation, and defining egalitarian family-households as those where the ratio of

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Table 38:   Intrahousehold labour transfers of
               non-agrarian family-households:
               method 1
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a): Average ratios of total to necessary labour-
            time for family-household members

Group	Rural proletarians	Petty entrepreneurs
Males	1.063	1.021
Females	1.218	.900
Children	.528	.031

- -
b): Structure of labour transfers, in per cent

Egalitarian	45.5	33.3
(no. of hh)	(5)	(1)
Inegalitarian: transfer to		
i) males	9.1	33.3
(no. of hh)	(1)	(1)
ii) females	27.3	33.3
(no. of hh)	(3)	(1)
iii) children	18.2	0.0
(no. of hh)	(2)	(0)
iv) all	100.0	100.0
(no. of hh)	(11)	(3)

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Notes: See Table 30.

Source: SMDB.
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averaged total to necessary labour time between members of the
family-household is no more than $\pm.15$ of that needed to
maintain equality, it appears that this method produces a good

proportion of egalitarian family-households. Some 46 per cent
of rural proletarian family-households are egalitarian, while
33 per cent of petty entrepreneur family-households are
egalitarian. Looking at the inegalitarian family-households,
Table 38 demonstrates a quite even pattern of inequality
across age and sex groups. About 30 per cent of non-
agricultural family-households transfer labour expenditure to
females, 9 per cent of rural proletarians and 33 per cent of
petty entrepreneurs transfer labour expenditure to males, and
18 per cent of rural proletarians transfer labour expenditure
to children. This latter figure is much lower than that in
Table 25.

Noting these results and recalling the difficulties associated
with method one, the problematic status of using a peasant-
based numeraire to assess non-peasant classes, and the small
number of petty entrepreneur observations, it would appear
that the variation in the percentages between the classes and
within the rural proletarians makes it difficult to make any
firm qualitative assessments regarding the equity of the
pattern of transfer of intrahousehold labour allocation
amongst the non-agricultural classes.

It will be remembered that method two assesses family-house-
hold labour expenditure by sex to the labour time necessary to

reproduce an adult in the small peasant class. By so doing, some of the difficulties associated with other computational methods dissolved. Table 39 details the results from the application of equation (12) to the labour expenditure statistics for non-agricultural males and females in Sarfaraz and Platoo.

Looking first at the averaged total to necessary labour time by sex, Table 39 makes very clear that on average females perform disproportionately more labour than that required to reproduce an adult. Males perform on average less labour than that required to reproduce an adult. The difference between the males and the females of the rural proletarians is especially pronounced; comparing Tables 31 and 39 only the rich peasants have a greater disproportionality.

The clarity derived in the averaged total to necessary labour time is starkly reinforced if family-households are judged on a case by case basis whether or not they are egalitarian. As seen in part b) of Table 39, no family-households are egalitarian; all family-households within the non-agricultural classes transfer labour to females beyond that dictated on the grounds of allocative equity. This result is of particular interest for the rural proletarians, as all family-households are subject to exploitation in the labour market. This

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Table 39:   Intrahousehold labour transfers of
             non-agrarian family-households:
             method 2
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a): Average ratios of total to necessary labour-
             time for family-household members

Group	Rural proletarians	Petty entrepreneurs
Males	.820	.788
Females	1.496	1.106

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b): Structure of labour transfers, in per cent

	Rural proletarians	Petty entrepreneurs
Egalitarian (no. of hh)	0.0 (0)	0.0 (0)
Inegalitarian: transfer to		
i) males (no. of hh)	0.0 (0)	0.0 (0)
ii) females (no. of hh)	100.0 (11)	100.0 (3)
iii) all (no. of hh)	100.0 (11)	100.0 (3)

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Notes: See Table 31.

Source: SMDB.
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exploitation may be redistributed within the family-household,
so that it is disproportionately borne by women.

Despite the inconclusive results of the first method, the
results of both the general observations and the second method
would seem to make it fair to assert that on the whole amongst

the non-agricultural classes labour expenditure is redistributed within the family-household so that a disproportionate share is borne by females. Possible transfers to children do not seem as important as in the case of the agricultural classes, while the occasional case of a transfer to males cannot be ruled out. Evidence thus suggests that the benefits associated with a relatively more secure economic position do not accrue equitably to all members of the family-household. In particular, the qualitative position of women is such that they are expected to bear more than an equitable allocative share of family-household labour expenditure. As with the agricultural classes, amongst the non-agricultural classes "exploitation comes home".

5. Social indicators and poverty comparisons

It is appropriate to conclude this chapter by considering the position of the non-agricultural family-households in terms of social indicators. These indicators are summarized in Table 40. Looking first at indicators of family-household structure, the average size of a non-agricultural family-household is smaller than the comparable figure given in Table 32 for an agricultural family-household. The difference is equivalent to 1.32 people in the case of the rural proletarians and more in the case of the petty entrepreneurs. Yet despite this smaller size the dependency ratio for both non-agricultural

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Table 40:   Social indicators of non-agrarian
              family-households

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Indicator	Rural proletarians	Petty entrepreneurs
Average size	7.55	7.00
Dependency ratio	140.8	132.2
Consumer-worker ratio	203.0	173.9
U5MR	192.8	47.6
Crude morbidity rate	222.7	133.3
Female literacy rate	0.0	0.0
Female roles		
1.obedience		
No	9.1	0.0
reserve	27.3	33.3
2.education		
own	9.1	0.0
shared	36.4	33.3

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Notes: See Table 32.

Source: SMDB.
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classes exceeds that of the average for the agricultural
classes, while the consumer-worker ratios of both non-
agricultural classes exceeds that of all four agricultural
classes. While income levels of the two classes thus compare
favourably to the agrarian classes, more people have to be

supported on the income generated. Looking next at the health indicators, the under-five infant mortality rate of the rural proletarians is the second highest in the sample, while that of the petty entrepreneurs is far and away the lowest in the sample. These findings are to some extent supported by the crude morbidity rate; the rural proletarians have the second highest morbidity rate in the sample, while the petty entrepreneurs have the lowest. As in the case of the rich peasantry, the figures for the rural proletarians are surprising given an economic position which is by no means the worst of the sampled family-households. No firm explanation is apparent as to why these figures are as they are, although once again it is possible that male child preference, the age structure of the females of the family-households, and the lack of access to healthcare may have something to do with this result.

Looking at the indicators of female status given in Table 40, no real difference is observed between average female literacy rates of agriculturalists and non-agriculturalists. Both are so low as to be non-existent. In terms of the subjective indicators of status, while the largest proportion of any class to disagree outright that women should obey their husbands were the females of the rural proletarians, overall both non-agricultural classes had a minority of women who

either disagreed or had reservations concerning male authority. Similarly, only a minority of women in both non-agricultural classes were consulted about female education, although once again the highest proportion of any class to assign that role exclusively to women was the rural proletarians. Taking the indicators of female status to-gether, it would appear that when compared to agricultural family-households less disagreement existed within the non-agricultural classes concerning the application of the Pakhtun social ideal; however, the number of negative responses to both questions indicates that where disagreement did exist it was stronger.

The last table of this chapter is Table 41, which attempts to draw the chapter together by identifying the potential income of the non-agricultural classes. Potential income is derived according the method presented in Chapter Eight. This is then compared to the basic needs poverty lines in order to assess whether or not potential incomes meet the requirements of basic needs. For comparative purposes the table also provides the same information for the agrarian classes.

Looking at the results, it is apparent that support is given for the assertion that the rural proletarians and the petty entrepreneurs are in a superior economic position when

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Table 41:   Comparison of potential income per
                year and poverty levels across
                classes, in rupees

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Class	Total potential income	Deviation from PV1	Deviation from PV2
Rich peasants	30810.6	17528.6	15631.2
Middle peasants	15134.4	1852.4	-45.0
Small peasants	9319.7	-3962.2	-5859.7
Poor peasants	10396.8	-2885.1	-4782.6
Rural proletarians	14490.3	1208.4	-689.1
Petty entrepreneurs	15394.0	2112.1	214.6
All	14172.6	890.7	-1006.8

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Notes: See Table 25.

Source: SMDB; International Fund for Agricultural
Development [1984]; de Kruijik and van Leeuwen [1985]; I,M.F.
[1987].
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compared to some of the agrarian classes. The potential
income of the petty entrepreneurs stands at just under
Rs.15400 per family-household per year and exceeds that of
every other class bar the rich peasants. The potential income
of the rural proletarians is just under Rs.14500 per family-
household per year and exceeds the potential income of both
the poor and small peasants. This latter result can be used

to support the argument that the pursuit of a market-dominated reproductive strategy can translate into a favourable economic position when compared with the results of a reproductive strategy oriented towards the maintenance of agricultural production.

Such an argument is reinforced if attention is focused on poverty. Looking first at the poverty line of Rs.13282 per family-household per year, it is apparent that unlike the small and poor peasants the rural proletarians and the petty entrepreneurs have income sufficient to attain basic needs. Neither of the non-agricultural classes has however anything like the cushion available to the rich peasants.

Considering the second, higher poverty line of Rs.15179 per family-household per year, it is apparent that while the rural proletarians fall below the poverty line they are not nearly as far removed from the line as the small and poor peasants. The petty entrepreneurs are in fact the only class other than the rich peasants to have sufficient income to avoid falling into poverty. Both non-agricultural classes are always in a position superior to the all-sample average.

6. Conclusion

It seems reasonable to conclude that the petty entrepreneurs

are able to utilize their pre-capitalist reproductive strategy to meet successfully the needs of their family-households. Such a finding is not especially surprising given the historical position of mercantilists and the attendant possibilities of arbitrage. It should however be noted that such activities do not expand the productive potential of the agrarian or non-agrarian sector. They rather live off already-generated resources. It is therefore not feasible to suggest a generalization of the reproductive strategy of the petty entrepreneurs.

The rural proletarians present an interesting case. Rather than becoming immiserated through the dynamics of capitalist development as has been suggested by some writers, it would appear that the original theses of Kautsky and Lenin have been borne out in the villages of Sarfaraz and Platoo. More specifically, while the rural working class is subject to the extraction of surplus through the normal workings of the labour market, the overall economic position of the class is better than that of a large portion of the peasantry. The attempt to maintain self-provision in terms of agricultural products may therefore be self-defeating in the sense of reducing the comparative welfare of family-households caught within the dynamics of peasant class differentiation. At the same time however it should be stressed that a more thorough-

going transformation of reproductive strategy need not be more beneficial to the family-household, as an enlarged rural proletarian class could have wage-depressing effects. Regardless, even the adoption of a welfare-enhancing transformation in reproductive strategy will not necessarily ease the burdens borne by women, who are subject to transfers of intrahousehold labour allocation regardless of the overall economic position of the family-household.

CHAPTER ELEVEN:

SUMMARY AND CONCLUSIONS

1. Summary

The purpose of this study has been to use marxian analysis to gain an understanding of the economic characteristics of peasant family-households in an area of the North-West Frontier Province of Pakistan. Central to this purpose has been an attempt to capture the role of the sexual division of labour in supporting the economic position of peasant family-households grouped together as classes. Both the content of peasant class status and the possible material basis of women's oppression had to be specified for this study. Theoretical points raised in the course of the analysis suggested focusing on patterns of labour expenditure as the core empirical category capable of capturing the dynamics of both the economic characteristics of peasant classes and the role of sex in the allocation of intrahousehold tasks. Such a focus permitted the use of a methodology derived from the work of Patnaik and Folbre.

The application of the Patnaik-Folbre method to the sample of

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family-households in Mardan district generated four agrarian classes other than the landlord class, for which no data was available. In addition, two non-agricultural classes were delineated on the basis of shared characteristics. Putting to one side the petty entrepreneurs, a class which was not engaged in productive activities and for which there were only a small number of observations, this summary concentrates on five classes in the villages of Sarfaraz and Platoo: the rich, middle, small and poor peasantry, and the rural proletarians.

An examination of the data showed that the reproductive strategy of the rich peasant family-households is geared towards market-oriented agrarian accumulation. Accumulation is facilitated through two forms of exploitation. First, the rich peasants directly exploit the labour of others through the hiring in of waged labour. Second, through the hiring out of capital stock the rich peasants indirectly exploit the labour of others. It is as a result of the imperfect land market that the accumulation process of the rich peasantry does not focus upon the expansion of operated area.

The rich peasants are heavily oriented towards taking full advantage of opportunities present in input and output markets. The rich peasants reinvest the resources they generate in expanding their control over non-land farming

assets, particularly modern powered equipment. In overall terms of assets, incomes and returns to familial labour the rich peasants are far and away the strongest of the classes examined in this study.

This economic strength is not however equitably distributed within the family-household. Raw data indicates that rich peasant women perform both far more work than men and more work than women of any peasant class. The two methods of calculating the transfer of intrahousehold labour expenditure between members of the family-household indicates that women perform disproportionately more labour than that which would be dictated on the grounds of allocative equity. The hypothesis of unequal exchange in intrahousehold labour allocation advanced in Chapter Three is to some extent substantiated. The sexual division of labour thus serves to concentrate the gains from exploitation into the hands of men.

The next class in terms of economic strength is that termed the middle peasantry. The reproductive strategy of this class is shown to be heavily geared towards self-employment in agricultural production destined for familial consumption and further production. As a result of the attempt to maintain the self-reliance of the family-household, the middle peasantry is not as heavily oriented towards participation in

markets as are the rich peasantry. Nonetheless some market participation occurs, in the hiring of labour and modern equipment and the sale of output.

The middle peasants in the project area have a sizeable asset base to support their farming production, and in terms of output and income appear to be capable of maintaining self-reliance. Yet the agricultural production of the middle peasantry is heavily dependent on the renting in of land from landlords. Through the payment of rent the middle peasantry is thus subject to surplus appropriation. The exactions can be very large; as a result, the net return to familial labour is not significant.

At the same time, the burden of surplus appropriation is not shared within the family-household. General observations demonstrated the significantly greater contribution of women to family-household labour expenditure, while further evidence indicated that women perform labour in excess of that dictated on the grounds of allocative equity. Once again, the hypothesis of unequal exchange within the family-household appears to be supported. The continued capacity of the middle peasantry to maintain a self-reliant reproductive strategy is thus dependent upon both an asset, land, which the class does not control and the willingness of women to perform a

disproportionate share of family-household labour expenditure. The security of the economic position of the class may thus be much more tenuous. Such an implication is supported by the fact that three family-households were seen to be attempting to alter their reproductive strategy on the basis of pursuing activities designed to maintain self-reliance and self-employment.

The wisdom of attempting to maintain self-reliance is open to doubt given the relative economic position of the rural proletarians, the next class in terms of economic strength. Their position reflects the fact that while exploited in urban and rural labour markets, the security engendered by stable labour contracts permit family-households to take advantage of market opportunities beyond those offered in the labour market. In particular, specialization in remaining subsidiary agricultural activities apparently facilitates more efficient production. The consequential result is that incomes are moderate despite the assets available to the family-households being the lowest of any class.

Nonetheless, the family-households are exploited and again such exploitation is inequitably distributed. While rural proletarian women may have access to more income compared to women in some other classes, women in this class have a longer

working day than those of any other class in the area. Evidence presented tentatively suggests that the exploitation of males in the labour market is disproportionately redistributed to female members of the family-household. At the same time, much of the specialized agricultural production is the direct result of female labour expenditure. While the reproductive strategy of the rural proletarians, geared as it is towards extensive participation in labour and product markets, may thus produce a superior result when compared to the results generated by some peasant classes, it nonetheless appears that the superiority of these results are predicated upon an ability to ensure that females are subjected to unequal exchange in the allocation of intrahousehold labour expenditure and thus perform more work than that which would be dictated on the grounds of allocative equity.

The possible economic benefits to the family-household of wider market participation is also witnessed in the case of the poor peasantry, which is the second weakest class in terms of economic strength. They have the second smallest asset base while maintaining a reproductive strategy directed towards agricultural production as a core economic activity. Such a combination can make it difficult to maintain subsistence purely on the basis of agricultural production, a fact reflected in the finding that the returns to family-household

labour in agriculture are often lower than that which would be obtained in alternative employment. As a result of low agricultural returns, members of the class are often required to participate in labour markets. Wages are a key part of the poor peasantry's reproductive strategy. The class is thus exploited via the labour market; at the same time however the class is not integrated into market processes to the extent witnessed by the rich peasantry and the rural proletarians.

Although the poor peasantry is subject to exploitation and has low incomes, the willingness to rely upon wages and lose self-employed status has been beneficial to the class, in that despite its small asset base its income levels are not the lowest of the classes in Sarfaraz and Platoo. At the same time however the exploitation is unevenly distributed between members of the family-household. Raw data shows that females again perform a disproportionate amount of family-household labour. The use of the Folbre method further indicates that the transfer of intrahousehold labour allocation is beyond that dictated on the grounds of allocative equity. These findings could be taken to demonstrate the role of the sexual division of labour in ensuring that exploitation is borne by women through the mechanism of the unequal exchange of intrahousehold labour allocation.

Somewhat surprisingly, the analysis indicated that in the project area the small peasantry appear to be the most economically insecure of all the classes. Like the middle peasantry, the small peasantry are primarily self-employed in that they engage in agricultural production designed to be used on-farm as inputs or consumption goods. The small peasantry mirror the middle peasantry in striving to achieve self-reliance rather than engage heavily in markets.

Just as with the middle peasantry the small peasantry relies on the hiring-in of land from landlords who appropriate surplus in the form of rent. While larger than that of the poor peasantry and the rural proletarians, the small asset base of the small peasantry combined with the appropriation of surpluses and the attempt to avoid market participation means that output was low and the net return to familial labour was negative. To obviate the shortfalls implied by such performance, members of the class have to resort to hiring themselves out on occasion. Such an activity remains however peripheral to the bulk of the productive activity of the class.

The attempt to maintain a reliance on agriculture in such circumstances means that the small peasantry appears to be in a highly tenuous position. Although small peasant family-

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households demonstrate the least inequality between males and females of any class in terms of hours worked per day, evidence again indicates that the contribution of female labour exceeds both that of males and that required on the grounds of allocative equity. The fragile position of the small peasantry thus disproportionately effects women, who are subject to inegalitarian transfers of intrahousehold labour allocation.

In short, in the project area a specific type of differentiation is witnessed, one that is restricted due to the imperfect land market. Despite such specificities however a small proto-capitalist class is emerging. The interesting question then revolves around the dynamic interplay between the landed interests seeking to maintain sources of surplus appropriation and agrarian accumulators seeking to deepen the processes within which they are enmeshed. Such processes would have to be studied over time. The outcome of such a conflict is not foregone.

Regardless of the outcome of such a conflict, it is clear that both relative economic advance and relative economic decline are not shared equitably amongst members of the family-household. The labour undertaken by women is in the main greater than that which they should undertake on the grounds

of allocative equity. The oppression of women thus serves as the material basis upon which the economic position of the family-households are constructed. With such oppression, exploitation can be redistributed within the family-household through an unequal exchange of intrahousehold tasks in order to buttress the privileged social position of men which is apparent regardless of class location.

2.i) Conclusions: The SCARP Mardan evaluation

The strength of the SCARP Mardan evaluation project data is twofold. Firstly, the data has been both carefully and comprehensively collected, giving it a rare breadth and quality. Secondly, the premise of the data collection has been that the variables under consideration are interrelated. This has resulted in the evaluation team grouping the family-households by the common characteristics of size of holding, tenure and income.

Through the use of such groupings, the evaluation team was able to arrive at a series of conclusions concerning the project area. They argued that economic stratification has occurred on the basis of operational holding and tenurial status and that this is reflected in income levels. Land-owning operators thus have a greater income than landowning tenants, who in turn have a greater income than landless

tenants. At the same time, it was argued that smaller farms were more productive. While no relationship was found between yields per acre and farm size, an inverse relationship was found to exist between gross and net income per acre and farm size. The higher absolute income levels of larger farms were found to bring a higher quality of life. The differential life chances that are rooted in unequal access to the land were reflected in the formation of village factions which were used as a means of improving economic security.

The conclusions of this study largely substantiate the findings of the evaluation team. Yet the conclusions contained herein are not identical. For example, while the evaluation team is correct in asserting an inverse relationship between farm size and income per acre, the argument given above is that such efficiency, if achieved at low absolute levels, may not be socially efficient in providing adequate subsistence. More fundamentally, this study concludes that while income differences do deliver differing life chances, such income differences are not necessarily solely the result of unequal access to land. As was stressed in Chapter Two such an orthodox grouping procedure can be erroneous because it equates size and scale. Even with an absence of technical change, within acreage groups there can exist differences in the organization of production based upon soil quality, access

to water, family-household size and the like. With technical
change such differences are all the more stark as surplus-
generating farmers and weaker farms each pursue differing
reproductive strategies. The conflation of size and scale can
thus obscure fundamental differences in the economic
characteristics of peasant family-households, most
particularly the set of production relations the family-
household works within and the resulting objectives and
constraints of production. It is interesting to note that one
of the members of the evaluation team was very aware of the
lack of a theoretical basis for a grouping based on size. In
a speech delivered around the time that the final data
analysis was underway, Mahmood Hasan Khan argued that the use
of marxian class categories in Pakistan specified

> the non-homogeneity of a highly differentiated agrarian
> economy. By the same token, it avoids many of the
> pitfalls inherent in empty categories based on either
> tenure or size, such as "landlords", "owner-operators",
> and "tenants"--a classification based on an arbitrary
> criterion of tenure--or "large", "medium" and "small"
> farmers--a classification based on an even more arbitrary
> criterion of farm size (Khan [1986b]: 432).

Despite this awareness, however, and despite his own central
role in developing agrarian political economy in Pakistan,
Khan utilized such "empty categories" when he performed the
analysis of the farm economics data for the SCARP Mardan
evaluation project.

In attempting to move to more meaningful categories this study

has found that while unequal access to land is a constraint that family-households face, in the two villages under consideration it need not preclude an improvement in economic circumstances. This is so for two related reasons. Firstly, for the generators of surplus the imperfections of the land market make it impractical to augment holdings. As a result the wealthiest peasants are not those with the greatest holdings of land but rather those who utilize such surpluses to acquire capital equipment. The widespread use of such equipment in the farming activities of the project area make it the best method by which to continually accrue additional resources. Secondly, for those less well off a willingness to forego attempts to maintain self-reliance in consumption and production and utilize the possibilities offered by the market has resulted in improved economic circumstances. In both instances then an acceptance of the logic of capitalism has been of benefit to members of the family-household. Given the alternative of feudal and capitalist production relations, the latter has offered greater economic security. In this, the study of the farm economy offered above falls into line with the findings of enquiries made at the turn of the century (Lenin [1964]; Kautsky [1987]).

Like the findings of the evaluation team, this study does substantiate the point that any benefits to the family-

household are not equitably distributed in terms of labour expenditure. In both studies the sexual division of labour is a foundation upon which family-households achieve, sustain and improve their economic position. This study does however offer a contrast to the original findings. While the evaluation team demonstrated a reduced workload for wealthier women, primarily in non-childcare tasks, the use of class categories has suggested that economic strength may not produce such benefits for women. Indeed, those two classes that most fully pursue a capitalist reproductive strategy, that is to say the rich peasants and the rural proletarians, both exhibit the heaviest workload for women and some of the most inequitable intrahousehold distributions of labour allocation. Given that the evaluation team found an inverse relationship between economic status and female influence over family-household decisions, indicators in this study support the argument that there is a qualitative deterioration in the status of women as capitalism deepens its insinuation into Pakistani agriculture.

2.ii) Agriculture in Pakistan

While isolated micro-studies cannot be used as the basis of comprehensive generalization such studies may support and give a deeper understanding of the findings of a macro- analysis. Such is the case here. The findings of both the original

evaluation and this study support arguments that there has been an inadequate performance of agriculture in Pakistan and that this is due to the institutional structure of the agrarian sector.

Over the period of 1977 to 1988 Pakistan was governed by the military regime of President Zia-ul-Haq. During this period agriculture grew in absolute terms at an average rate of 3.94 per cent per annum. While not insubstantial, a decomposition of this rate reveals the very narrow base upon which agricultural growth has taken place.

It is important to begin by noting an obvious but important fact. The average rate of growth per annum of the Pakistani population between 1980 and 1987 was 3.7 per cent, one of the highest in the world (U.N.I.C.E.F. [1990]). This means that for much of the period net of population growth agriculture grew by a near-insignificant amount. Such a low rate of growth is insufficient to sustain attempts at industrialization (Byres [1974]).

Table 42 gives rates of growth per annum of selected agricultural crops for the period between 1977 and 1988. Two points of relevance in assessing the dynamism of Pakistani agriculture emerge from Table 42. First, for the four most

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Table 42: Percentage rates of growth per annum of
          selected agricultural crops,
          1977/8 to 1987/8

| Year | Crop | | | | |
	Wheat	Rice	All food crops	Sugar-cane	Cotton
1977/8	-8.5	7.8	-1.9	1.9	32.2
1978/9	18.9	10.9	14.4	-9.1	-17.7
1979/80	6.4	-4.5	2.9	0.6	53.9
1980/1	8.4	-0.1	3.7	17.7	-1.8
1981/2	-1.5	9.8	1.2	13.0	4.6
1982/3	9.8	0.4	7.8	-11.1	10.2
1983/4	-12.3	-3.0	-8.7	5.4	-39.9
1984/5	7.5	-0.7	4.7	-6.3	103.6
1985/6	19.0	-11.9	9.4	-13.3	19.8
1986/7	-13.7	19.4	-3.1	7.4	8.4
1987/8	5.5	-7.0	-0.7	10.4	12.1
Average	3.6	1.9	2.7	1.5	16.9

Source: Government of Pakistan/Finance Division [1989]
(hereafter GOP) and author's calculations.
==

important crops grown in Pakistan--wheat, rice, sugarcane and
cotton--only cotton performed above the average rate of growth
of agriculture in the 1977/8 to 1987/8 period. Trend rates of
growth in agriculture were thus pushed up by the extremely
good performance of one crop, cotton.

The second item to emerge from Table 42 is the extreme vari-
ability in production from year to year and that variations in
agricultural performance appear to be closely linked to the
performance of the wheat and cotton crops. This variability

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in agricultural performance has occurred despite impressive increases in the availability of high-yielding seed varieties, fertilizer and credit, and an increase in the availability of water as indicated in Table 43. The agrarian sector therefore continues to depend upon the weather to get good results despite the use of modern technology.

Table 44 reinforces the argument that the agrarian sector lacks dynamism by detailing the yields per hectare of Pakistani agriculture. The growth in yields of both cotton and wheat appear considerable, while that of rice and sugarcane appears low. Two additional points can be regarding productivity. First, while the growth of yields in cotton and wheat is substantial, Pakistan still has a long way to go before its productive efficiency reaches world standards. For example, if comparing wheat yields between the most efficient producers in the agro-climatically similar Pakistani and Indian Punjabs, Indian yields have on average been 30 per cent higher than Pakistani yields (Noman [1988]): 163). Second, low rates of growth of yields of rice and sugarcane indicates that in the main output increases have occurred as a result of an extension of the cultivated area and not as a result of productivity improvements. The margin for further extension is now quite limited and as a result it is likely that the country will come to rely even more heavily on the two crops

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<u>Table 43</u>: Average annual rate of growth of
          selected agricultural inputs in
          per cent, 1978/9 to 1987/8

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Year	Input HYV seeds	Water	Fert- ilizer	Credit
Average, 1978/9 to 1987/8	8.2	2.4	9.7	23.3

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<u>Source</u>: GOP and author's calculations.
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of wheat and cotton.

Mardan district is typical of Pakistani agriculture. The
sugarcane that is grown there is subject to suboptimal yields,
and so in order to boost output attempts are made to extend
the cultivated area. One method of trying to extend
cultivated area is to do precisely what the SCARP Mardan pro-
ject is attempting, namely soil reclamation. Such a strategy
does not however boost the intensity of production. Indeed,
in irrigated areas such as Mardan district if the reclamation
of land is not accompanied by an increase in the flow of water
through the irrigation system the intensity of production may
decline.

The government perpetuates this suboptimal production pattern
through its procurement prices, which has often been double

-- Conclusions --

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Table 44: Per annum yields of selected
          agricultural crops in tonnes
          per hectare, 1971/2 to 1987/8
------------------------------------------------------------
Year          Crop
                            All
                            food    Sugar-
              Wheat   Rice  grains  cane    Cotton
1971/2        1188    1552   n/a    36125    361
1977/8        1316    1553  1256    36590    312
1978/9        1488    1615  1380    36338    250
1979/80       1529    1536  1443    38300    350
1980/1        1643    1616  1507    39223    339
1981/2        1565    1736  1467    38627    338
1982/3        1678    1742  1554    35673    364
1983/4        1482    1671  1405    38224    223
1984/5        1612    1658  1483    35553    450
1985/6        1881    1567  1650    35713    511
1986/7        1559    1687  1548    39273    523
1987/8        1734    1651  1605    39227    572

Average,
1977/8 to     1590    1639  1482    37522    385
1987/8
------------------------------------------------------------

Source:   GOP and author's calculations.
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that of the international market price. Moreover, the economic stratification that has been demonstrated in this study suggests that the gains of price support will be concentrated in absolute terms amongst those who appropriate the largest surpluses from land and labour, that in to say the landlords and the rich peasantry. The welfare gains from such price supports may thus also be limited.

This brief examination of the record of Pakistani agriculture

over the years of the Zia Government has demonstrated that the agrarian sector is heavily dependent upon two crops that are subject to the weather and that are not produced as efficiently as they could be. Such a finding must render problematic the ability of agriculture to reliably meet the economic demands placed upon it, in terms of home consumption, production inputs and foreign exchange earnings.

2.iii) The structure of underdevelopment

It is not the place of this study to provide a complete explanation as to why the agrarian sector in Pakistan lacks dynamism. The findings of this study do however tend to be consistent with arguments advanced by Khan and Hussain (see Hussain [1986], [1988], [1989]; Khan [1986b], [1986c]). It is worth briefly summarizing these arguments.

Analysis of the agrarian sector in Pakistan tends to focus on Sind and Punjab, where over 80 per cent of agricultural output is generated (Khan [1986c]: 12). In these two provinces lies the Indus basin. It has been argued by Khan that the area of the Indus basin should be viewed as a bifurcated agrarian structure. It is thus subject to spatially differentiated structures. Agrarian class differentiation in Punjab should therefore differ from the processes witnessed in Sind.

In the irrigated areas of Punjab it appears that in the period between 1960 and 1972 the opportunity presented by the provision of new agricultural technologies led large landlords to commence direct cultivation of land through the use of hired labour (see Khan [1986b], [1986c]; Hussain [1986]). Hired labour has come from poor and small peasants who had lost some of their tenanted land to their landlord and as a result had been forced to seek waged employment due to subsistence pressures. Many tenants had also seen the basis of their tenancy transformed as commercial tenancies grow in number. At the same time the number of poor and small peasants has been swollen as a result of larger numbers of middle peasants losing large parts of their cultivated area to the landlord that owns the land. They thus join the ranks of the small and poor peasants and send family-household members to a greater or lesser extent out to seek waged employment. The process of agrarian development in Punjab has thus witnessed a growing polarization of cultivators as proto-capitalist farmers squeeze the middle peasantry and the numbers of the small and poor peasantry expand while their operated holdings contract in size.

The bulk of Sind is characterized by a different agrarian structure. This is in part due to the fact that the effects of the Green Revolution have been concentrated in Punjab

(Noman [1988]: 39). In contrast to the emergence of proto-capitalism in Punjab, Sind remains dominated by a land ownership structure that is both highly concentrated and in the hands of absentee rentier landlords. The extensive role of sharecropping in Sind and the consequent appropriation of output by landlords has led to the characterization of Sind as being "feudal". While Sind thus has a highly polarized agrarian structure, the basis of the polarization is quite different from that in Punjab.

It is argued by Khan that it is this polarization in Punjab and Sind which has engendered a lack of agricultural dynamism (see Khan [1986c]). The reason is twofold. Khan argues that in Punjab there exists an inverse relationship between farm productivity and size of holding. The control of larger capitalist farms over larger amounts of the operated area has facilitated the growth of farms less intensive and efficient in their crop production. In contrast, social polarization in Sind has meant that while small and poor peasants have the potential to be technically more efficient, such potential is not realised because the benefits of such efficiency would be continually appropriated by a landlord class which itself does not invest in agriculture.

This provides the context for an analysis of the structure of

agrarian production in the North-West Frontier Province (N.W.F.P.). The N.W.F.P. is usually overlooked when it comes to investigations of agrarian structure in Pakistan. By and large the extent and quality of the data is less than optimal and it is generally argued that the limited agricultural regions of the N.W.F.P. are dominated by smaller "family farms". Khan thus suggests that in 1971/2 over 60 per cent of farms in the N.W.F.P. were "family farms" (Khan [1986b]: 434). However, the findings of this study suggest that while such an argument may not be fundamentally wrong it is oversimplified and does not give clear account of the relations of production found within some parts of the Province.

While Sarfaraz and Platoo may not be representative of the N.W.F.P., in the two villages it seems more appropriate to argue that the bifurcated agrarian structure found in the Indus Basin is in fact spatially co-terminus. There may thus be more similarities between parts of the N.W.F.P. and the Indus Basin than is commonly argued. In the Mardan area, as the two sets of agrarian structures are interwoven, the villages are subject to contradictions. It is thus the case that like Sind the bulk of the family-households in the two villages are beholden to landlords that by extracting surplus may mitigate against the investment that promotes agrarian dynamism. At the same time however family-households which

rely upon land rental are not undifferentiated. In Sarfaraz and Platoo middle and small peasants can be distinguished by their asset base and their use of the labour market.

Such "feudal" relations of production have not however prevented the emergence of a small class of proto-capitalist farmers who work with the grain of the agrarian structure by accumulating on the basis of capital. By working with the grain of such a structure and not seeking to expand operated area, the extent of polarization in the two villages is to some extent masked in that holdings appear to be more evenly distributed than in Sind and Punjab. If Pakistan is a political economy witnessing an articulation of modes of production, as is implicit in the argument of Khan, then the articulation is dramatically illustrated in Sarfaraz and Platoo.

Two general points emerge from this. The first is that if the analysis undertaken in Mardan district were to be widely re-peated in the Indus Basin, it might also reveal that the relations of production there are not as straightforward as has been argued. Despite reputable studies using similar techniques but which conclude the contrary (Hussain [1986]), it may be the case that in some districts of Sind and Punjab an articulation of modes of production is also occurring.

The second point is that although there may be greater similarities between the N.W.F.P. and the Indus Basin than is commonly thought, the co-existence of capitalist and feudal relations of production in Mardan district means that care must be taken when adopting policy recommendations to improve agricultural performance in the N.W.F.P. which have largely been formulated in the context of the Indus Basin.

2.iv)   Some thoughts on policy

There are other conclusions of this study which may be of more specific relevance to policy concerned with the improvement of agricultural production in the project area.   These conclusions are mainly concerned with land reform. The social polarization of assets in Sind and Punjab described above have led many to recommend comprehensive land reform as a precursor to improving agricultural performance. Khan has well argued the case (Khan [1986c]). It is also widely believed that such a measure would improve equity.

Central to the recommendation to adopt land reform as a measure to improve agricultural performance is the belief that there is an inverse relationship between size of holding and output. This study has argued however that it is not output that is relevant in assessing the contribution of various forms of landholding to the development process; rather, it is

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the generation of surplus. While this study has not been able to calculate the more appropriate net marketable surplus, the measure of surplus used has found that in the project area, class status and not size of holding per se determines the surplus of production over consumption. This reiterates the concept of scale as the central determinant to the generation of surplus. Indeed, Khan himself has noted that the inverse relationship is not as strong in the technologically more-dynamic Punjab (Khan [1986d]: 277). In short, this focus on scale of production rather than size of holding means that only limited improvements in surplus generation would be expected from a land reform in Mardan district unless it is accompanied by other measures designed to increase scale.

The findings of this study also throw into doubt the equity considerations which lie behind recommendations for land reform. At the outset, the comparative static analysis undertaken by this study shows that family-households with equal-sized holdings of land may not be of equal economic strength. This discrepancy arises because of differences in both the totality of productive assets under their control and the reproductive strategies they pursue. A redistribution of land in and of itself may not be sufficient to improve the relative economic status of those classes of lesser economic strength.

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Further, this study shows that there is a dynamic if re-
stricted process of peasant class differentiation at work in
Mardan district. In such a context it is difficult to draw
any specific conclusions of the effect of land reform, whether
it be on equity or output, because it too is a dynamic
process. It can be noted however that the rich peasantry,
because of economic strength and because of the size of their
holdings, may be able to obtain a disproportionate amount of
land through both the reform process and the opening up of the
land market. Such has certainly been the case in other parts
of South Asia.

Similarly, while the middle and small peasants would un-
doubtedly benefit from a land reform which reduces the rents
drained from their output, such benefits could make it more
feasible for some family-households to pursue reproductive
strategies based upon surplus generation, accumulation and
technical change: that is to say, capitalist reproductive
strategies. In this context it is worth recalling that in
Chart 2 it appears that even in a static context some 14.6 per
cent of middle peasants and 4.3 per cent of small peasants
benefit from exploitation through land and labour markets. It
is thus possible that land reform could become the impetus for
an acceleration of the process of peasant class
differentiation and a deepening of the polarization that

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exists amongst cultivators. Such an outcome may be detrimental to those family-households in the project area of lesser economic strength.

It also bears repeating that the findings of this study suggest that even if land reform does raise the welfare of those family-households of lesser economic strength, such benefit need not be distributed equitably within the family-household. The capacity of the stronger economic classes to more rigorously enforce the Pakhtun social ideal has, in the project area, led to a deterioration in the status of women. This finding renders questionable the assertion that an equity-improving land reform will improve the welfare of all members of the family-household. Indeed, this finding has relevance to any policy designed to improve the welfare of the peasantry of the area.

The long run impact of land reform on equity is thus problematic without the intervention of an agent, such as the state, capable of controlling this dynamic differentiation process. The state could restrict such processes by providing smaller-scale cultivators secure access to credit, extension services, guaranteed access to inputs, especially technology, and secure access to output markets in which prices provide adequate returns to cultivators with smaller-sized holdings

(Khan [1986b]: 256). The improved access to inputs need not just improve equity; it could indeed improve output. Technological change facilitated through state intervention could push an alteration in cropping patterns, techniques and intensities which may enable cultivators to improve their scale of production and at the same time increase the magnitude of the surpluses which they generate. To prevent such measures being captured by dominant classes, as has been argued in this study and others, implies however a very different kind of state and indeed a very different kind of political economy than that which exists in Pakistan.

A transformation in the agrarian political economy of Pakistan may be a necessary condition of successful development. In Asia successful capitalist development has appeared to emerge in countries where there has not been extensive land rental. It can therefore be argued that land rental is an ineffective means of mobilizing capital for development. This argument can indeed be taken further, in that in both South Korea and Taiwan the land reform that has been carried out has been done so in such a way as to prevent the possibility of large holdings becoming a source of wealth accumulation (Wade [1990]: 301). Given the role played by landlords in Pakistani politics, it is not feasible to foresee such restrictions on concentration coming about without a transformation in the

political economy.

3.   Final remarks

This study has been carried out at one point in time.   The
most interesting questions are however intertemporal.   This
allows assessment of changes in the agrarian structure and the
sexual division of labour over time.   It allows clearer
understanding of both the strengths and weaknesses of agrarian
capitalist development and the changing role of the sexual
division of labour in the development of agrarian capitalism.
No adequate analysis can exist without making an attempt to
address these questions.   This study is one of a number which
over the 1980s have attempted to apply the methodological
insights derived from the marxist analysis of agrarian change.
The uniqueness of this study lies in its attempt to capture
intrahousehold relations of production in the process of
agrarian change.   Just as with other studies however it is
apparent that work towards an adequate method of both
collecting and analyzing farm economics data and in assessing
the role of sexual division of labour in the development of
capitalism in agriculture is still in its early stages.   Much
work remains.

APPENDIX ONE:

THE CHI-SQUARE TEST ON CLASS AND ACREAGE

Removing the landless labourers from the class and acreage groups of Table 2 permits it to be treated as a contingency table where the number of observations is N = 88 and where the degrees of freedom are calculated by (r-1)*(k-1) and thus d.f = 15. The expected frequency of each cell in the table is given by

$$f_e = (f_r * f_k) / N \qquad \text{(a1)}$$

where f_r is the frequency of the row and f_k is the frequency of the column. Applying this to the contingency table generates the expected frequency table given in Table A1.

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Table A1:Expected frequency of class/acreage
         combinations

Acreage Group	Rich peasant	Middle peasant	Small peasant	Poor Peasant	All
.01-<1	.886	7.09	3.398	1.625	13
1-<2.5	1.227	9.818	4.705	2.25	18
2.5-<5	1.364	10.909	5.227	2.5	20
5-<7.5	1.295	10.364	4.966	2.375	19
7.5-<12.5	.955	7.636	3.659	1.75	14
12.5-25	.273	2.182	1.045	.5	4
All	6	48	23	11	88

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The chi-square test can then be used to assess whether or not the populations are related. This can be done thus:

H0: classes and acreage groups are independent categories.

H1: classes and acreage groups are not independent categories.

Level of significance: .005

Critical value: 32.8

$$X^2 = \qquad \Sigma \ (f_o - f_e)^2 \ / \ f_e \qquad\qquad (a2)$$

$$= 65.872$$

65.872 > 32.8

H0 is therefore rejected and H1 is accepted.

To test the extent of the association the contingency coefficient can be used thus:

$$C = (X^2 \ / \ X^2 + N) \qquad\qquad (a3)$$

$$= .654$$

Classes and acreage are therefore related but are not coterminus.

Given that in some instances the difference between the observed and the expected frequencies was small, a positive bias might be present in the test statistic. This is obviated by Yates' correction for continuity. The contingency table

derived from Table 2 was reduced to a 2 * 2 table. Pooled together were the rich and middle peasants as the rural better-off and the small and poor peasants as the rural worse-off. Acreage groups were also pooled, to holdings of less than 5 acres and those of 5 or more acres. This gives Table A2, from which can be derived the expected frequencies using Equation (a1). These are given in Table A3. The tables have one degree of freedom.

==

Table A2: Pooled contingency table for class/acreage combinations

Acreage Group	Rural better off	Rural worse off	All
.01-<5	21	30	51
5-25	33	4	37
All	54	34	88

==

Table A3: Expected frequency table for reduced class/acreage combinations

Acreage Group	Rural better off	Rural worse off	All
.01-<5	31.295	19.705	51
5-25	22.705	14.295	37
All	54	34	88

==

As before,

H0: classes and acreage groups are independent categories.

H1: classes and acreage groups are not independent categories.

Level of significance: .005

Critical value: 7.88

$$X^2 = \quad \Sigma \ (|f_o - f_e| - .5)^2 \ / \ f_e \qquad\qquad (a4)$$

   = 18.873

18.873 > 7.88

H0 is therefore rejected and H1 is accepted.

To test the extent of the association the contingency coefficient can once more be used:

$$C = (X^2 \ / \ X^2 + N) \qquad\qquad (a3)$$

   = .42

This indicates a moderate degree of association between class and acreage groups.

It is therefore concluded that while classes and acreage groups are related categories, they are not coterminus.

APPENDIX TWO:

THE KRUSKAL-WALLIS TEST ON CLASS AND ACREAGE

The Kruskal-Wallis test is the nonparametric equivalent of the one-factor randomized design of the analysis of variance. The test statistic is a function of the ranks of the observations. These are grouped into populations and the ranks within the population are summed. The critical value of the test statistic is the upper tail of the chi-square, which should be distributed as the test statistic subject to the degree of freedom if the null hypothesis is true. The test also permits an assessment of which pairs of populations tend to differ. The sole assumption of the test is that several populations are independent.

Surplus generation, capital utilization and market orientation are used to assess whether or not economic classes are independent populations. For all three, total observations N = 88. The rich peasants are designated n1 and have 6 observations. The middle peasants are designated n2 and have 48 observations. The small peasants are designated n3 and have 23 observations. The poor peasants are designated n4 and have 11 observations. With the four populations being

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designated as k, the degrees of freedom are (k - 1) and thus
d.f. = 3.

The test statistic is designated as H. With R_j being the sum
of the ranks for the jth population and n_j being the number of
observations of the jth population, it is calculated thus:

$$H = (12/N * \{N+1\}) * \Sigma (R_j^2/n_j) - (3 * \{N+1\}) \qquad (a5)$$

In order to assess which pairs of populations tend to differ,
an inequality is calculated thus:

$$|R_i/n_i - R_j/n_j| > t_{1-(\alpha/2)} * \Big(\{[N*(N+1)]/12\} *$$

$$\{[N-1-H]/N-k\}\Big)^{1/2} *$$

$$(\{1/n_i\}+\{1/n_j\})^{1/2} \qquad (a6)$$

where R_i and R_j are the rank sums of the two samples, n_i and n_j
are the number of observations in the two samples, and $t_{1-(/2)}$ is
the $(1 - \alpha/2)$ quintile of the t distribution with N -k degrees
of freedom. The satisfaction of the inequality indicates
independence. The same level of significance is used for both
tests.

Turning first to surplus generation, the hypotheses are:

H0: Populations are identical

H1: Population means are not all equal

-- The Kruskal-Wallis Test --

Level of significance: .05

Critical value: 7.815

Rank sums: where n1=6, R_1=403

                where n2=48, R_2=2431

                where n3=23, R_3=699

                where n4=11, R_4=383

Calculating from Equation (a5):   H = 15.694

As H exceeds the critical value the null hypothesis is therefore rejected.

The inequality of equation (a6) is calculated for each possible pair of populations. Calculating:

for n1 and n2   -->   16.521 < 20.384

for n1 and n3   -->   36.775 > 21.580   *

for n1 and n4   -->   32.348 > 23.892   *

for n2 and n3   -->   20.255 > 11.938   *

for n2 and n4   -->   15.828 > 15.737   *

for n3 and n4   -->   4.427 < 17.258

With * signifying independence, it is thus the case that four of a possible six pairs of populations are independent. On two, judgement is reserved.

Turning next to capital utilization, the hypotheses are:

H0: Populations are identical

H1: Population means are not all equal

Level of significance: .05

Critical value: 7.815

Rank sums: where n1=6, R_1=395

                 where n2=48, R_2=2490

                 where n3=23, R_3=861

                 where n4=11, R_4=170

Calculating from Equation (a5):   H = 23.748

The test statistic exceeds the critical value and therefore the null hypothesis is rejected.

The inequality of equation (a6) is calculated for each possible pair of populations. Calculating:

for n1 and n2   -->   13.958 < 19.199

for n1 and n3   -->   28.399 > 20.325   *

for n1 and n4   -->   50.379 > 22.502   *

for n2 and n3   -->   14.440 > 11.244   *

for n2 and n4   -->   36.420 > 14.821   *

for n3 and n4   -->   21.980 > 16.254   *

It is thus the case that five of a possible six pairs of populations are independent. On one, judgement is reserved.

Lastly, for market orientation the hypotheses are:

H0: Populations are identical

H1: Population means are not all equal

Level of significance: .05

Critical value: 7.815

Rank sums: where n1=6, R_1=302

                  where n2=48, R_2=2598

                  where n3=23, R_3=817

                  where n4=11, R_4=199

Calculating from Equation (a5):   H = 21.311

The H statistic exceeds the critical value and therefore the null hypothesis is once again rejected.

The inequality of equation (a6) is calculated for each possible pair of populations. Calculating:

for n1 and n2   -->   3.792   < 19.565

for n1 and n3   -->   14.812 < 20.713

for n1 and n4   -->   32.242 > 22.932   *

for n2 and n3   -->   18.603 > 11.458   *

for n2 and n4   -->   36.034 > 15.104   *

for n3 and n4   -->   17.431 > 16.564   *

It is thus the case that four of a possible six pairs of populations are independent. On two, judgement is reserved.

In total 13 of a possible 18 pairs of populations are indeed independent.   As the test is in many circumstances a

conservative one, the Kruskal-Wallis test provides robust support to the argument that the populations are not equal.

APPENDIX THREE:

REGRESSION ANALYSIS

1. General remarks

Regression analysis is the means by which the value of a continuous random variable is estimated given the value of other quantitative variables. This is done by fitting a least-squares line to sets of data. Regression analysis can then be used to study the strength of the statistical relationships between data sets. The assumptions surrounding the use of regression analysis can be found in any introductory statistics text (see for example Kazmier [1979]); it is not necessary to detail them here.

The general form of a linear multiple regression model is

$$Y_i = a + b_k X_{i,k} + e_i \qquad (a7)$$

where Y_i is the value of the dependent variable in the ith observation, a is a constant which indicates the value of Y when all X_k equals zero, b_k is the value of the regression coefficient associated with each independent variable, $X_{i,k}$ is the value of the kth independent variable in the ith observation, and e_i is the random error in the ith observation. If relationships do not appear linear, it is

often possible to take logarithms of the observations and so transform the data into a log linear multiple regression. Both linear and log linear models are used below.

In the results presented below, regressions have been estimated using the data compiled from the SCARP Mardan project area which is summarized in the text. The total number of observations used however is only 99; the petty entrepreneurs have not been subjected to regression analysis due to insufficient data. Considered examination of the data contained in Chapters Six through Ten led to the selection of a specific regression model which was then estimated using the Microfit interactive econometric software package (Pesaran and Pesaran [1988a], [1988b]).

The following terms are used in the presentation of the results of the regression analysis that has been carried out:

```
C0     -->All observations (n = 99)
C1     -->Rich peasants (n = 6)
C2     -->Middle peasants (n = 48)
C3     -->Small peasants (n = 23)
C4     -->Poor peasants (n = 11)
C5     -->Rural proletarians (n = 11)
lg     -->Logarithm
***    -->Significant at .5%
**     -->Significant at 1%
*      -->Significant at 5%
+      -->no first-order serial correlation
#      -->indeterminate first-order serial correlation
```

T-ratios are presented in brackets underneath the independent variables.

2. Regression results

i) In order to ascertain the relationship between inputs and outputs, a log linear Cobb-Douglas production function was applied to the aggregate data on total farm output (Q), operational holding (H), total capital utilization (K), total labour utilization (L) and total non-capital non-labour non-land inputs (O) summarized in Tables 2, 4, 12, 15, 17, 33 and 34. The results:

C1:   (lg Q) = -1.374 - .167(lg H) + .183(lg K)
$$\text{(lg Q)} = -1.374 - \underset{(-.429)}{.167}\text{(lg H)} + \underset{(.628)}{.183}\text{(lg K)}$$
$$+ \underset{(3.976)}{1.088}\text{(lg L)}^{**} + \underset{(.405)}{.138}\text{(lg O)}$$

$R^2 = .9935$; $F(4,1) = 38.11$; $SE = .132$; $d = 1.685^{\#}$

C2:
$$\text{(lg Q)} = 1.951 + \underset{(2.64)}{.199}\text{(lg H)}^{**} + \underset{(3.22)}{.276}\text{(lg K)}^{***}$$
$$+ \underset{(2.368)}{.24}\text{(lg L)}^{*} + \underset{(4.476)}{.389}\text{(lg O)}^{***}$$

$R^2 = .8744$; $F(4,43) = 74.832^{**}$; $SE = .252$; $d = 2.23^{+}$

C3:
$$\text{(lg Q)} = 1.42 - \underset{(-.436)}{.041}\text{(lg H)} + \underset{(2.789)}{.399}\text{(lg K)}^{**}$$
$$+ \underset{(1.283)}{.181}\text{(lg L)} + \underset{(2.227)}{.397}\text{(lg O)}^{*}$$

$R^2 = .7622$; $F(4,18) = 14.423^{**}$; $SE = .277$; $d = 1.474^{\#}$

-- Regression Analysis --

<u>C4</u>: $(\lg Q) = 4.313 - .002(\lg H) + .374(\lg K)^{***}$
                        $(-.075)$ (11.139)

                $+ .042(\lg L) + .191(\lg O)^{***}$
                   (1.599) (4.995)

$R^2 = .9839; F(4,6) = 91.74^{**}; SE = .051; d = 2.298^{+}$

<u>C5</u>: $(\lg Q) = -1.246 - .068(\lg H) + .327(\lg K)^{***}$
                        $(-.229)$ (4.612)

                $+ .013(\lg L) + .978(\lg O)^{*}$
                   $(.049)$ (2.772)

$R^2 = .9359; F(4,6) = 21.898^{**}; SE = .401; d = 2.65^{\#}$

ii) In order to get a deeper understanding of the
     relationship between inputs and outputs, a log linear
     Cobb-Douglas production function was applied to the
     disaggregated components that comprise the statistically
     significant variables uncovered in 2.i). The data was
     derived from the information summarized in Tables 2, 5,
     6, 11, 12, 14, 17, 33, 34 and 37. Depending upon the
     class, total farm output (Q) was made dependent upon a
     variety of independent variables which could comprise any
     or all of the following: operational holding (H), total
     family labour expenditure on-farm (F), total hired-in
     farm labour (LHI), purchased machinery inputs (TR),
     purchased livestock inputs (LS), possessed capital inputs
     (FK), fertilizer and seed inputs (FT), energy inputs
     (EN), and transport and processing inputs (TP). The

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-- Regression Analysis --

results:

$\underline{C1}$: $(\lg Q) = .057 + .507(\lg F)^{***} + .86(\lg LH)I^{***}$
$\qquad\qquad\qquad (5.458) \qquad\qquad (12.217)$

$R^2 = .9848$; $F(2,3) = 97.158^{**}$; $SE = .126$; $d = 2.11^{+}$

$\underline{C2}$: $(\lg Q) = 4.018 + .188(\lg H) + .086(\lg TR)$
$\qquad\qquad\qquad\quad (1.408) \qquad\quad (1.281)$

$\qquad\qquad\qquad + .088(\lg LS)^{**} + .045(\lg FK)^{*}$
$\qquad\qquad\qquad\quad (2.639) \qquad\qquad (1.721)$

$\qquad\qquad\qquad + .053(\lg F) + .136(\lg LHI)$
$\qquad\qquad\qquad\quad (.614) \qquad\quad\; (1.241)$

$\qquad\qquad\qquad + .204(\lg EN)^{**} + .127(\lg TP)^{*}$
$\qquad\qquad\qquad\quad (2.604) \qquad\qquad (2.419)$

$R^2 = .9006$; $F(9,38) = 38.264^{**}$; $SE = .237$; $d = 2.317^{+}$

$\underline{C3}$: $(\lg Q) = 3.22 + .382(\lg LS)^{***} + .432(\lg EN)^{***}$
$\qquad\qquad\qquad\quad (3.009) \qquad\qquad\;\; (3.368)$

$R^2 = .7145$; $F(2,20) = 25.027^{**}$; $SE = .288$; $d = 1.898^{+}$

$\underline{C4}$: $(\lg Q) = 6.977 + .052(\lg TR)^{**} + .248(\lg LS)^{***}$
$\qquad\qquad\qquad\quad (2.873) \qquad\qquad (5.124)$

$\qquad\qquad\qquad + .01(\lg FK) + .033(\lg FT)$
$\qquad\qquad\qquad\;\; (.267) \qquad\quad\; (1.189)$

$\qquad\qquad\qquad - .04(\lg EN) + .006(\lg TP)$
$\qquad\qquad\qquad\;\; (.364) \qquad\quad\; (.283)$

$R^2 = .9747$; $F(6,4) = 25.645^{**}$; $SE = .079$; $d = 2.022^{+}$

C5: $(\lg Q) = 6.257 + .275(\lg LS)^{***} + .148(\lg FT)^{*}$
                      (3.684)   (2.885)

$R^2 = .6999$; $F(2,8) = 9.329^{**}$; SE = .751; d = $2.523^{\#}$

iii) In order to gauge the extent to which farms were oriented
     to the market in their output decisions, a log linear
     equation was fitted to the data summarized in Tables 2
     and 17. Marketed farm output (M) was made dependent upon
     total farm output (Q) and operational holding (H). The
     results:

C1: $(\lg M) = -18.392 + 2.972(\lg Q)^{***} - 2.307(\lg H)^{***}$
                         (8.443)   (-5.575)

$R^2 = .9652$; $F(2,3) = 41.595^{**}$; SE = .288; d = $2.631^{\#}$

C2: $(\lg M) = -4.307 + 1.171(\lg Q)^{**} + .53(\lg H)$
                        (2.714)   (1.217)

$R^2 = .4015$; $F(2,45) = 15.096^{**}$; SE = 1.347; d = 2.07^{+}

C3: $(\lg M) = -8.667 + 1.669(\lg Q) + .066(\lg H)$
                        (1.562)   (.11)

$R^2 = .1676$; $F(2,20) = 2.014$; SE = 2.089; d = 1.85^{+}

C4: $(\lg M) = 5.743 + .298(\lg Q) + 1.089(\lg H)^{***}$
                       (.21)   (4.898)

$R^2 = .8833$; $F(2,8) = 30.267^{**}$; SE = .924; d = 1.679^{+}

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iv) In order to get a better understanding of the basis by which incomes were generated, a linear multiple regression equation was fitted to data summarized in Tables 2, 5, 6, 10, 11, 17, and 21. Income per worker (Y) was made dependent upon a variety of variables which differed by class. These could comprise any or all of the following: operational holding (H), farm assets per worker (A), non-farm assets per worker (N), on-farm family labour (F), hired-in on-farm labour (LHI), machinery inputs per worker (TRW), livestock inputs per worker (LSW) and marketed output per worker (MW). The results:

C1: $$(Y) = 964.939 + 1.256(MW)^{***} + .632(TRW)^{***}$$
$$(6.849) \qquad (5.216)$$

$R^2 = .99$; $F(2,3) = 147.871^{**}$; SE = 2242.6; d = 2.59[#]

C2: $$(Y) = 2851.6 + .525(MW)^{**} + .681(N)^{***} + .485(LHI)$$
$$(2.473) \qquad (5.319) \qquad (1.467)$$

$$- .376(F)^{**}$$
$$(-2.662)$$

$R^2 = .5574$; $F(4,43) = 13.539^{**}$; SE = 1589.7; d = 2.656[#]

C3: $(Y) = 2313.6 + 429.89(H)^{**} + .555(MW) - .465(F)^{***}$
(2.738) (1.286) (-2.886)

$- .303(A)$
(-1.324)

$R^2 = .4564;$ $F(4,18) = 3.779^*;$ $SE = 1289.7;$ $d = 2.042^+$

C4: $(Y) = 803.791 + 1.447(MW)^{***} + .807(LSW)^{***}$
(4.737) (5.608)

$- .501(LHI)$
(-1.323)

$R^2 = .9028;$ $F(3,7) = 21.684^{**};$ $SE = 255.787;$ $d = 2.231^+$

v)   In order to get a better understanding of expenditure patterns, two separate single variable log linear regressions were performed. Using data summarized in Tables 20, 23, and 35, total expenditure (E) was regressed onto first farm investment (I) and then consumption expenditure (C). The results:

C1: $(lg\ I) = -26.87 + 3.18(lg\ E)^{**}$
(3.937)

$R^2 = .7949;$ $F(1,4) = 15.498^*;$ $SE = 2.282;$ $d = 3.101$

$(lg\ C) = 1.129 + .791(lg\ E)^{***}$
(5.186)

$R^2 = .8705;$ $F(1,4) = 26.893^{**};$ $SE = .431;$ $d = 1.121^\#$

$\underline{C2}$: (lg I) = -20.893 + 2.692(lg E)***
                        (5.028)

R^2 = .3547; F(1,46) = 25.282**; SE = 2.677; d = 1.8^{+}

    (lg C) = 5.473 + .378(lg E)***
                    (4.576)

R^2 = .3128; F(1,46) = 20.937**; SE = .413; d = 2.341^{+}

$\underline{C3}$: (lg I) = -8.862 + 1.302(lg E)
                      (1.103)

R^2 = .0547; F(1,21) = 1.216; SE = 3.647; d = 1.877^{+}

    (lg C) = 26.587 - 1.801(lg E)***
                    (-3.499)

R^2 = .3683; F(1,21) = 12.242**; SE = 1.589; d = 1.351$^{\#}$

$\underline{C4}$: (lg I) = -41.526 + 4.81(lg E)
                      (1.637)

R^2 = .2294; F(1,9) = 2.68; SE = 3.444; d = 1.951^{+}

    (lg C) = 2.237 + .734(lg E)***
                    (10.356)

R^2 = .9226; F(1,9) = 107.249**; SE = .083; d = 1.347$^{\#}$

$\underline{C5}$: (lg I) = -23.128 + 3.001(lg E)
                      (1.686)

R^2 = .24; F(1,9) = 2.843; SE = 2.547; d = 2.391^{+}

    (lg C) = 7.223 + .21(lg E)
                  (.978)

R^2 = .096; F(1,9) = .955; SE = .306; d = 1.249$^{\#}$

vi) The equity of intrahousehold labour allocation can to some extent be assessed by linearly regressing the two main components of intrahousehold labour expenditure, per worker female (FWK) and male labour (MWK), onto work per worker (WK). The data was summarized in Tables 29 and 37. The results:

CO: $(WK) = 549.958 + .386(FWK)^{***} + .179(MWK)^{***}$
(10.341) $\quad$ (2.828)

$R^2 = .56$; $F(2,96) = 61.103^{**}$; $SE = 394.259$; $d = 1.891^{+}$

SUPPLEMENTARY TABLES

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Table A4:   Value of non-land assets per family-
            household by type of asset and economic
            class, in rupees

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Asset	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Livestock	5478.3	8917.9	5679.8	3626.7	7175.7
Tractors & machinery	25291.7	1489.6	0.0	63.6	2544.9
Farm tools & implements	1140.7	1341.6	514.1	57.1	951.1
All non-land farm assets	31910.7	11749.0	6194.0	3747.5	10671.6
Non-farm assets	0.0	3333.3	0.0	0.0	1818.2
All assets	31910.7	15082.4	6194.0	3747.5	12489.8
Assets per FHH worker	9839.9	2316.2	1151.0	830.1	2338.9

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Notes: FHH is family-household. Figures may not sum due to
rounding.

Source: SMDB.
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Table A5:   Value of inputs advanced per family-house-
             hold per year, in rupees

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Input	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
All inputs advanced	10841.7	9288.4	6053.3	4789.9	7986.4
Irrigation & land revenue	267.1	420.8	180.0	38.5	299.6
Fuels & energy	2835.9	2947.8	1915.6	1504.4	2489.9
Farm tools & implements	232.4	75.1	53.8	2.2	71.1
Farm machinery[*]	4042.8	1360.7	685.4	208.9	1223.1
Livestock[*]	3463.5	4484.0	3218.5	3036.0	3902.7

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Notes: * includes maintenance. Fuels and energy advanced
include market purchases and own production; other inputs are
only market purchases. Figures may not sum due to rounding.

Source: SMDB.
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Table A6:   Total non-land inputs per holding per
             year, in rupees

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Input	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Total inputs	20065.4	18225.1	9502.1	6100.6	14555.1
Soil inputs & irrigation	2848.6	3978.2	1881.6	800.5	2956.0
Capital	4275.2	1435.8	739.2	211.1	1294.2
Livestock	3463.5	4484.0	3218.5	3036.0	3902.7
Value of own capital	2274.5	2285.8	929.4	212.1	1671.3
Transport, processing & energy	3513.9	3614.3	2161.0	1663.9	2983.8
Wages	3689.7	2427.0	572.4	177.0	1747.1

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Notes: Inputs include market purchases and own produc-
tion. Figures may not sum due to rounding.

Source: SMDB.
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Table A7:   Disposal of crop and livestock output
             per holding per year, in rupees

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Output	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Gross value	31252.6	31707.9	14225.1	9035.2	24273.4
Rents	500.0	1997.6	441.0	0.0	1237.9
Inputs	6719.3	7102.6	4381.3	3487.6	5922.7
Wages	1187.6	1173.2	256.1	135.5	801.0
Marketed	11831.7	9109.7	2892.7	2468.9	6840.3
Consumption	4562.9	5263.5	3257.5	2123.3	4296.4
Retained	6451.0	7061.4	2996.5	810.9	5175.0

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Note: Figures may not sum due to rounding.

Source: SMDB.
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Table A8:   Per holding family-household incomes by
             source per year, in rupees

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Source	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Wages	3032.9	5054.3	4520.9	7449.0	5076.4
Marketed farm output	11831.7	9109.7	2892.7	2468.9	6840.3
Hired-out capital	18595.3	361.3	0.0	0.0	1464.9
Hired-out land	414.4	0.0	121.7	72.7	69.2
Other inputs sold	0.0	3160.5	0.0	0.0	1723.9
Other income	1170.7	1051.7	2451.1	251.5	1325.6
Total income	35044.9	18737.5	9986.5	10242.1	16500.2

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Note: Figures may not sum due to rounding.

Source: SMDB.
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Table A9:   Labour expenditure per worker per year, in
             hours

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Group	Rich peasant	Middle peasant	Small peasant	Poor peasant	Average
Males	1323.9	2003.0	1825.7	1748.3	1878.5
of which:					
domestic	44.4	41.9	37.8	57.5	42.9
own farm	875.2	1368.8	974.5	280.0	1096.0
hired-out	350.6	424.3	726.3	1399.3	663.7
other	53.7	168.0	87.1	11.9	75.9
Females	3423.0	3391.3	2908.2	2949.1	3211.9
of which:					
domestic	2853.8	2978.3	2509.5	2509.8	2788.7
own farm	569.1	413.0	387.2	437.7	420.0
hired-out	0.0	0.0	11.5	1.6	3.2
Children	528.9	791.1	807.1	727.6	769.5
of which:					
domestic	254.5	384.5	358.0	336.2	368.6
own farm	267.2	381.3	358.0	310.7	359.4
hired-out	7.2	26.1	91.1	80.8	42.3

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Notes: Figures may not sum due to rounding.

Source: SMDB.
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Table A10:   Labour expenditure in hours per year
              of non-agrarian family-households
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	Rural proletarians	Petty entrepreneurs
Males	1940.8	1864.4
of which:		
domestic	21.5	0.0
own farm	289.2	139.0
hired-out	1630.1	240.4
other	0.0	2075.6
Females	3541.9	2617.4
of which:		
domestic	3100.7	2200.4
own farm	432.9	417.1
hired-out	8.4	0.0
Children	425.9	24.9
of which:		
domestic	151.2	8.4
own farm	151.2	8.4
hired-out	123.6	8.2

- -

Notes: Figure may not sum due to rounding.

Source: SMDB.
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