

**ASPECTS OF AGRARIAN CHANGE : MUZAFFARNAGAR
AND MEERUT, 1870-1920**

**Dissertation submitted in partial
fulfilment of the requirement for
the degree of
Master of Philosophy**

By

MUKUL MANGALIK

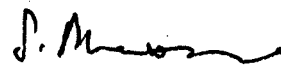
**Centre for Historical Studies
School of Social Sciences
Jawaharlal Nehru University
New Delhi**

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DECLARATION

I certify that the Dissertation entitled "Aspects of Agrarian Change : Muzaffarnagar and Meerut, 1870-1920," submitted by Mukul Mengelik in partial fulfilment of the degree of Master of Philosophy, is a bonafide work, to the best of my knowledge, and may be placed before the examiners for their consideration.


CHAIRMAN


SUPERVISOR


CANDIDATE

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INTRODUCTION

The question of economic growth has been posed in most historical literature, as a question of the market, the major assumption being that conditions for growth are triggered off by exchange. The basic fallacy of this argument lies, in equating savings/income increases, with investment, which is a systematic tendency only under conditions of capitalist production. Capitalist profit is created within the process of commodity production and initially as surplus value, which is physically embodied in the commodity. Profits can, therefore, not grow unless there is a simultaneous expansion in the scale of commodity production. The income of landlords and merchants is never involved in the production process in the same way. Therefore, an increase in the income of feudal lords disposing of rents and tithes in kind on the market, or of merchant putters-out, can hardly be equated in economic function, with capitalist profit. An increase in feudal and mercantile income is likely to be consumed, or used to extend their politico-legal extortions from independent petty producers. Quite clearly then, before we can analyse the effect of qualitative changes in income on economic investment, we must first, reconstruct the economic structure of production within which these income changes take place.

Within the left, Marx's concept of a mode of production ensures that there is a general conception of economic structure. Within most Marxist writing, however, the notion of structure remains a simple abstraction, e.g., labour commodity-capital relationship or that of petty production-feudal rent. In this schema, growth means a shift in economic organisation from the latter relationship to the former. Thus growth takes place by the constant breaking up of less productive units, whereby their labour and means of production are set free. These are purchased by capital as elements of circulating and fixed capital and reorganised on a more productive scale. The differentiation between productive units, which is so crucial for an increasingly productive reorganisation of the economy, takes place in this model, through the market. The operation of a single market price means that less productive units lose out over time to more productive ones. The limitations of this argument are visible when we see that market exchange and commodity production have existed in all phases of history; yet differentiation of the type described above is effected through the market, only at a particular stage of development of a society. Thus, the emergence of the world market in the sixteenth century helped a more productive reorganisation of the economy in England, whereas what took place in Eastern Europe was a most regressive type of demeaned farming, which, in less than a century was subject to a massive decline in output and productivity. The market works as a differentiating mechanism

only in conditions in which commodity producers also have to purchase their subsistence or capital requirements on the market. As long as agricultural producers are individually united with their means of production (and thus have direct access to subsistence), they can produce at varying 'costs', varying productivities, for a common price, without jeopardising their own production. And as long as these units remain intact, no increase in income can be transformed into productive capital.

A detailed critique of the above positions is not intended here; but in our short discussion above, we hope to have made two methodological points clear :

- (a) without a conception of economic structure one cannot locate economic growth; and
- (b) an understanding of this structure must begin at the level of production, not of exchange.

One further point needs to be emphasised. Any conception of a mode of production or economic structure would remain incomplete if left at simply identifying the unit of production and the relations of production. As integral as these to any mode of production, is an economic dynamic, a specific economic cycle, a particular pattern of long-term economic movements.¹ There occur points of crises and of breakdown in the course of this economic cycle; there also emerge, in embryo new social relations, new forms of organisation of production, the basis for a new, different economic dynamic, in the course of the same economic movement.¹ Any conception of a mode of production which leaves out of consideration, the economic dynamic specific to that mode, would fail to

explain adequately the method of movement of economic structures, their method of expansion, the reasons for their disintegration, the emergence of new structure within the womb of the old.¹

'Guy Bois has a theory of the dynamics in a peasant-based agriculture,' which we will extrapolate from his analysis of feudalism, for our own analysis. 'The basic unit of production' in this economy 'is the peasant family farm' wherein producers are directly united with the means of production. 'The economic activity of this unit is oriented towards securing its own reproduction, subsistence. Hence any expansion in production is in response to growing consumption requirements of the family as its numbers grow. Population growth, therefore, immediately determines growth in an economy of this type. Given the small capital resources of a peasant unit, however, growth takes place at a static, at most a marginal growth of technology. Physical resources such as land fertility, therefore, put an outside limit to extensive growth of this type. A growth in numbers, beyond this limit, means on the one hand land fragmentation, shortening of fallows and other exhaustive practices; on the other, a decline in productivity as marginal lands are brought into cultivation and pasture is converted into arable. Thus, in Guy Bois' model, extensive growth creates beyond a point, conditions for recession and famines.' Despite the inevitability of recession after each phase of expansion, 'allowance has been made within the model for long-term growth. Each cycle of expansion is accompanied by a general decline in productivity,

1 Guy Bois, The Crisis of Feudalism, translated manuscript, J.N.U. Library.

rising prices, falling real wages, and a decline in the rate of rent. In this period, therefore, farms with higher than average productivity can earn very high returns on the seller's market, while decline in wage and rent rates encourages investment in production. In Western Europe, this was an extremely slow process, and only over several cycles of expansion, was sufficient basis created in the economy to break out of the inevitable recessionary cycle and sustain long-term growth.

A study of two districts would give us a better idea of changes within a region as a whole, than a study of only one district. In our study, we take up for analysis, the changes within the agrarian economies of two districts in Western U.P. - Meerut and Muzaffarnagar - between the years, 1870-1920. Studies on Indian agriculture in the modern period have developed models of economic structure for the more backward and stagnating areas of agriculture, notably Bengal, Bihar and Eastern U.P. The way in which peasant accumulation is crushed by high levels of rent, state taxation and usury, and ^{how} capital accumulation tends to invest in rentier, commercial or usurious operations has been well developed both theoretically and empirically. Our area of study, presents a different economic type. Peasant immiseriation is not all that occurs here. Instead of the under-developed agriculture characteristic of the 'Bengal' type, we have, in Meerut and Muzaffarnagar, higher rates of growth in commercial crops and foodgrains relative to other areas, greater public and private investments in irrigation

and an agrarian class structure with a fairly large well-to-do middle and rich peasant component.¹

¹Simon Commander has studied the agrarian economy of the Doab (which subsumes our area as the Upper Doab) 'between 1800 and 1860.' He concludes that 'the agrarian expansion of the nineteenth century was essentially of the 'old' type, necessarily recessive in the long-term.' He has argued that there was a 'cycle of population expansion in the first half of the nineteenth century' in the entire Doab which was 'accompanied by an extension of cultivation.' The expansion both in number and cultivated area was far more rapid in the Upper Doab - as compared to other areas - this being a relatively unsettled area, hitherto, which allowed for a large margin of resources. Nevertheless, here too, as in the rest of the Doab, population outstripped resources, so that at places, even in the Upper Doab region, population growth was double that of cultivated area. Given the stagnation in yields, Simon Commander concludes that 'by the last quarter of the nineteenth century, a recessionary tendency could be postulated' (of course, the regressions were nowhere as deep as those that have been identified for fourteenth and fifteenth centuries, France. Both in terms of mortality and speed of recovery, the famines and epidemics of nineteenth century U.P., Simon has shown, were very minor by comparison. Nevertheless, as a tendency, they did lead to underdevelopment in the long-term). 'Thereafter, given a stagnant technological base, all further attempts at increasing output, whether by double-cropping,

2 Simon Commander, The Agricultural Economy of Northern India, 1800-1860.

commercial cropping or extension of irrigation would only mean, over-cropping, soil exhaustion and declining productivity.¹

We accept most of Simon Commander's argument, that growth until the 1860's was of an extensive kind in which regressive tendencies were, perhaps visible by the last quarter of the nineteenth century. Most noticeable in this regard, are perhaps, the crop failures of the 1860's and 1890's, which if observed carefully, appear to cluster together, suggesting that perhaps they reflect a tendency towards exhaustion of the economy rather than accidental, individual drought years. What we do not accept, however, is the argument that recession and under-development were the all-important, economic characteristics of late-nineteenth century western U.P. Our argument is, that within a general impoverishment of the agrarian economy of our region during the late nineteenth century, we can see also, elements of development - new forms of production, greater commercial cropping, a fair increase in facilities for irrigation, improvements in techniques of production etc. All this would indicate that a process of differential accumulation (as in Guy Bois' model) was also taking place, a process that was sharply accelerated, especially on irrigated plots of land in years of drought and famine.¹

If we are to do justice to our argument, then the project at hand is a massive one. Very briefly, it would mean studying changes in agrarian production and class structure and the processes which brought about these changes, over a fairly long period of time

spanning the nineteenth and twentieth centuries. Our aim at present, is rather limited. Immediately, we can do no more than to identify broad long-term economic movements of such indices as population, prices, wages, rents, revenue and credit and try, and consider the impact of these movements on the structure of production. The project is left so glaringly incomplete as to seem almost meaningless in itself. For what we have omitted from our analysis, for the moment, are human subjects, the men and women who within given objective circumstances, make their own history, who, grouped into classes, organise production and create that world which is today the object of our study. Agrarian class structure remains outside the scope of our analysis, at present. It will be taken up as part of a larger subsequent work.

For the moment, we take as our point of departure, (the latter half of the nineteenth century, because that is the time when the integration of India into the world economy, begins to make itself felt markedly on the Indian agrarian economy. What was happening to movements within the economy after 1870? And what was happening to production? And how were these two aspects of the economy linked? These are the two or three major questions which will be the major focus of our attention around which our chapters will be organised. While concentrating on the changing agrarian economies of Meerut and Muzaffarnagar, between 1870-1920, we shall at points extend ourselves upto 1940. This will be primarily in instances where our evidence upto 1920 is limited or sparse. In such cases,

we shall try and argue on the basis of data which, strictly speaking, would be outside the limit of our period of inquiry.

Chapter I will deal with trends in the movement of population, prices and wages in the two districts, between 1870 and 1940. The attempt will be to:

- (a) locate the major characteristics of these movements over the period; and
- (b) identify breaks, if any from the previous pattern of these movements.

A discussion of the nature of the demographic cycle is important because it is indicative of the economic structure within which it occurs. Major changes within the demographic cycle can suggest major changes within production. Movements in population, have, in turn, a direct bearing on the evolving economic relations. The ups and downs in the demographic cycle would have fairly important implications for fluctuations in wage levels. Fluctuations in wage-rates exert, in turn, a fairly obvious influence on production. The scale of employment of wage-labour for production determines the scale at which production itself can be organised. The more extensive the employment of wage-labour, the more extensive the scale at which production can be organised. This being the case, fluctuations in wage-levels would determine whether or not conditions were favourable for the employment of wage-labour and hence have a direct bearing on production itself. In addition, as in the case of demographic movements, significant,

noticeable changes in the character of wage movements could have a lot to say about the character of production and changes occurring within it.

Something similar may be said with regard to prices. Movements in prices are as specific to economic structures as are movements in population and wages. Changes within the pattern of price cycles would, therefore, be as reliable an indicator of changes within the structure of production, as changes within the movement of population and wages. Moreover, price movements, like wages, have a direct bearing on production. Price fluctuations determine directly the relative profitability of different spheres of investment and therefore have a bearing on what is produced, on shifts in production from one thing to another, etc. Movements in price are fairly closely tied up with wage fluctuations. The ability of producers to secure adequate profits given favourable price conditions, allows them to offer higher wages to labour, and vice-versa. In this way price levels exert a necessary pressure on the level of wages.

Movements in population, prices and wages are specific to economic structures. Not only that; they are closely linked to each other, and have a direct bearing on production. It is these movements that constitute the basic content of Chapter I of our study.

An analysis of these movements in the first chapter will be followed by a study of movements in revenue, rent and credit, in Chapter II, these, we feel, being as crucial constituents of the

conditions of production, as prices, wages and population.

Finally, in Chapter III, we will take up for discussion actual production itself - all that was happening within the realm of production over these years, the changes that were taking place. Needless to say, the first two chapters will form the necessary context within which the actual goings on in agrarian production will have to be understood.

The conclusion will be a summing up of the major points made in each chapter. In the conclusion, we shall also try and knit together the arguments of individual chapters into a coherent whole. We shall end by suggesting the implications of our study for changes in social relations in the countryside.

A word about our sources. The sources used have been the following : Settlement Reports, District Gazetteers, Census Reports, Prices and Wages Series, Agricultural Statistics of India, Annual Administration Reports for the United Provinces, Land Revenue Administration Reports, and the Provincial Banking Enquiry Committee Report. A document on Rural Wages by S.C. Chaturvedi proved to be extremely useful; data from that is, in fact, the mainstay of our section on wages. Material from these sources is not always substantial enough. Specialised reports on various aspects of our study could have enriched our analysis manifold, but obvious constraints of time have limited us to the use of whatever material was easily available and general enough to cover a bit of everything we intend to tackle, even if not very exhaustively. We hope to

develop every element of our study much more extensively at a later point in time. Then, perhaps, the sources we have based ourselves on, right now, will really appear to be elementary.

CHAPTER I

TRENDS IN POPULATION, PRICES AND WAGES

SECTION A

POPULATION

We begin with the trend in the movement of population for our period, 1870-1920. The census figures for the province detail this movement as follows :

TABLE 1.1

Population movements, decennial (as percentage)¹

Year	All U.P.	Indo-Gangetic Plain, West	Meerut	Muzaffarnagar
1872-81	+ 5.3	- 2.1	+ 2.9	+ 9.9
1881-91	+ 6.3	+ 1.5	+ 6.0	+ 1.9
1891-1901	+ 1.7	+10.0	+10.7	+13.5
1901-11	- 1.0	- 2.0	- 1.4	- 7.8
1911-21	- 3.1	- 5.6	- 0.3	- 1.6
1921-31	+ 6.7	+ 6.7	+ 6.9	+12.7
1931-41	+13.6	+16.1	+18.4	+18.1

¹ Figures for 1872-1911, from Census of India, United Provinces, 1911, Subsidiary Table I, p. 79. Figures for 1911-41, from Census of India, United Provinces, 1941, Subsidiary Tables, p. 19.

The overall percentage increase in population over these years, has been the following :

Year	All U.P.	Indo-Gangetic Plain, west	Meerut	Muzaffarnagar ²
1871	29.9	24.4	45.7	46.7

What is really significant, however, is not simply the fact of this demographic expansion, but the character of this expansion. This can be revealed by looking a little more closely at the decennial trends in the movement of population, given above.

Perhaps the most striking feature within this movement, is the presence of fairly severe demographic fluctuations between 1872-1921, and their absence, thereafter. After 1921, in fact, not only is the expansion of population uninterrupted, the rate of its increase is phenomenal. This is one major, easily observable change in the pattern of the demographic movement in our region.

But this is not all. An equally significant change may be noticed in the period 1872-1921. Death is caused less by starvation from famine, and more by diseases. One simple exercise would make this clear. If we try to find any direct correlations between years of famine and years of population decline in our two districts, our attempt would end in failure. For our period, the years of famine for the province as a whole were 1877-78, 1896-1900, and

2 Calculated from Table 1.1.

1907-08. For both Muzaffarnagar and Meerut, however, the decades which witness a marked decline in population are 1901-11, and 1911-1921, the latter being a famine free decade. Even the extent to which famine was responsible for the demographic decline of 1901-11, may be doubted on the basis of qualitative evidence culled from district gazetteers, settlement reports and census reports. On the basis of like evidence, similar doubts may be raised regarding the slower rise of population in Meerut as compared to Muzaffarnagar - during the decade 1872-81, and in Muzaffarnagar as compared to Meerut, during the decade 1881-1891.

Of course, reports written by British officials would tend to minimise the adverse impact of famines on the lives of those they governed; but given, that in fact, years of population decline did not always coincide with famine years, we may not regard British official reports as being completely unreliable. One other thing we need to be careful about is the following: it can be argued that famines and diseases are not completely delinked from each other, that virulent epidemics are themselves indicative of a population suffering malnutrition and therefore witnessable to disease; secondly, it can also be argued that the figures of death from diseases may well be weighted in our favour given the better reporting of diseases and deaths in each successive Settlement Report.

The point, is however, that things seem to have undergone a change, nevertheless. Obviously, if people died in such numbers, it stands to reason that they were severely undernourished. If we

look at the decade 1911-21 however, it would be clear that
tion was not caused by famines (this decade was a famine-free decade).
Clearly, this was different from deaths due to starvation even
diseases like cholera, in years of famine. As to the second argu-
ment about better reporting, it would suffice to say that better
reporting cannot, by itself explain the massive jump in deaths by
diseases as opposed to famines that we notice in the early decades
of the twentieth century.

That, until as late as 1860, famine played havoc with people's
lives in Meerut district, is clear from statements made in the
district gazetteer.³ In Muzaffarnagar, however, even during the
famine of 1880 "the pressure of scarcity was never felt so severely
as elsewhere, and during January 1881 it was only found necessary
to expend Rs. 283 in outdoor relief to 3,182 persons, while in Meerut
as many as 25,864 persons came for relief, and in Saharanpur the
numbers were over 17,000."⁴ By the time of the famine of (1868),
even Meerut seems to have secured itself against the ravages of
scarcity. "The famine of 1868 did not affect this district to any
great extent and the same may be said of all subsequent periods of
scarcity."⁵ No doubt, prices ruled inordinately high, and this

3 "The famine of 1860 ... was terribly severe ... Many thousands
of cattle changed hands, a sure sign of distress, and prices
reached a point, higher than any recorded..." Meerut : A
Gazetteer, H.R. Neville, 1903, p. 58.

4 Muzaffarnagar : A Gazetteer, H.R. Neville, 1903, pp. 55-56.

5 Meerut : A Gazetteer, p. 58.

would indicate scarcity conditions, "but this state of things was in no small measure due to the high prices prevailing elsewhere, and the consequent (enormous exports of grain from the district,) rather than to any failure of the harvest in Meerut."⁶ The estimated export of grain from Meerut to the lower Doab, Punjab, Saharanpur and Rohilkhand, in 1868, was put at over 50 lakh maunds.⁷ Whatever experimental relief works were opened seemed to have been used primarily by the poorer urban classes, and that too for a short time only.⁸

In Muzaffarnagar, the famine of 1868 seems to have caused greater distress than it did in Meerut. "... considerable distress was ... occasioned so that it was eventually found necessary to provide both gratuitous relief and famine works."⁹ Nevertheless, even here, "trade was vigorous during the famine, and the district exported not only its own stores, but was the channel of an important transit trade in grain."¹⁰ Wheat was exported to Saharanpur, Ambala, Agra, Bhiwani, Bijnor and Cawnpore. The famine of 1877, left Muzaffarnagar district practically unscathed. "... in the Muzaffarnagar district, while the pinch of high prices was felt,

6 Ibid., p. 59.

7 Ibid. .

8 Ibid.

9 Muzaffarnagar : A Gazetteer, pp. 55-56.

10 Ibid., p. 57.

it was never found necessary to open relief works."¹¹ Even the settlement officer for Muzaffarnagar, writes in 1891, "The ... great famine in 1877-78 was weathered easily though it appears both from descriptions and from the frequency of reference to it by the people, to have been much more severe than its predecessor .. The long continued drought withered up the crops and canal water was too scarce to supply much more than the sugar-cane. 'The aspect of the country was miserable in the extreme; the eye ranged over expanse of bare uncared for fields with here and there what seemed to be a scanty plot of half withered maize or millet ... Nor was the appearance of the canal traversed portion of the district much better than that of the drier parts. Notwithstanding this severe trial the revenue was all collected within the year and this almost without recourse to coercive processes'."¹²

As for Meerut, "the serious failure of the rains in 1877 ... did no great harm ... The cultivators were in good case." The relief works opened, were few, and appear to have been necessitated by the influx of population from the east and south-east.¹³ In 1896, as well, Meerut escaped almost completely from the ravages of famine. Unlike most other parts of the province, the harvests in Meerut were more or less normal.¹⁴ That Meerut remained immune to famine in 1896-1900 is confirmed also by the settlement officer for the district in 1940. When referring to these years he says, that

11 Ibid.

12 Settlement Report of the Muzaffarnagar District, 1892, p. 6.

13 Meerut : A Gazetteer, p. 59.

14 Ibid.

despite the "severe drought in 1896 to 1900 ... the population ... rose considerably." Given this, the same settlement officer when writing of the famine of 1907-08 feels, that "this (drought) cannot be considered an adequate reason (for explaining fluctuations in population)...." ¹⁶

So far, we have shown the lack of any correlations between years of famine and years of population decline. We have backed our argument with whatever qualitative evidence available to us. We move on now to show some correlation between years of epidemics, and decades of population decline. Our argument will be that decades which witnessed epidemics of disease were also decades which suffered population decline, and this, increasingly so. We will take up Meerut district first.

In talking of disease we refer specifically to malarial fever which was, perhaps most rampant in both Meerut and Muzaffarnagar. Malarial fever, was, in fact, a relatively new phenomenon which seemed to have grown with the extension of canal irrigation and the water-logging resulting therefrom. The total number of deaths from fever in Meerut, in 1868 were reported as being a mere 8,425. ¹⁷ More reliable recording of deaths resulted in giving a fever mortality of 38,209 in 1872. ¹⁸ The census officer for Meerut, in 1881

16 Final Settlement Report of the Meerut District, 1940, p. 6.

17 Meerut : A Gazetteer, p. 32.

18 Ibid.

tells us, that not all the deaths reported in Meerut during the decade 1872-81 resulted from the famine of 1877-78. A large part were due to malarial fever which swept the district in 1879.¹⁹ In the gazetteer for Meerut District, of the number of deaths reported during the ten years ending in 1902, no less than 95 per cent were due to malarial fever.²⁰ Both, the settlement officer for Meerut in 1940, as well as the Census Commissioner in 1911, hold the plague and malaria epidemic during the decade 1901-11, rather than the famine of 1907-08, as having been primarily responsible for the deaths in the province as a whole as well as in Meerut and Muzaffarnagar. The Census Commissioner states in 1911, "there has been nothing unfavourable in the conditions of the decade so far as its material conditions are concerned But when the question of public health is considered, matters are very different. It is not too much to say that there never has been a decade where the public health has been so unsatisfactory as it has been in this."²¹ Plague, the census officer goes on to tell us, was a new disease, but it struck with remarkable virulence. The total number of deaths from plague for the province as a whole - 2.76 per 1000 - represented no doubt, a most serious addition to the usual mortality.²² As for malaria, "it chiefly affected Muthra, Agra and parts of Meerut; and

19 Census of India, NWP and Oudh, 1881, p.

20 Meerut : A Gazetteer, p. 32.

21 Census of India, United Provinces, 1911, p. 42.

22 Ibid., p. 43.

Rohilkhand divisions ... The major part of these divisions are full of water (river or canal) and freely irrigated."²³

As for Muzaffarnagar, "the spread of malarial fever was observed in this district soon after the construction of the main canals."²⁴ From less than 4 per cent of the total mortality recorded in 1867, deaths from malarial fever had risen to constitute over 67 per cent of the whole by 1870.²⁵ From the late 1870's deaths from fever were always very high.²⁶ No doubt, the earlier mortality records were faulty, for such a jump in the death rate between 1867 and 1870, is inconceivable. Any way, the figure for 1870 does give us an idea of the strength of the malarial attack. We possess no evidence for Muzaffarnagar specifically that would explain the tremendous fall in the rate of population expansion in the district during the years 1881-1891 and the decade 1901-1911. For the former decade we will have to rely on a stray comment in the settlement report of the district 1892 in which we are told that a "succession of unhealthy seasons" in the western parts of the district and "the defective drainage and ill-health" of Pargana Purchchaper in the eastern were together responsible for keeping down population.²⁷ As for the decade 1901-11, we will have to depend on what we have already said about the province as a whole

23 Ibid., p. 44.

24 Muzaffarnagar : A Gazetteer, p. 20.

25 Ibid., p. 21.

26 Ibid.

27 Settlement Report Muzaffarnagar, 1892, p. 14.

and for Meerut. There is no reason to believe that Muzaffarnagar should have diverged from that pattern. Fortunately, one statement in the settlement report of 1921 confirms our belief : "... in the decennium following that year (1901), plague took a heavy toll of 70,000 heads."²⁸

We come now, to the final decade under consideration, 1911-21. This decade was the second in succession to witness a decline in population for the province as a whole as well as with regard to the districts of Meerut and Muzaffarnagar. A comparison of the health conditions of the decade with the yearly vital statistics of the decade, would reveal a population extremely sensitive to conditions of health. The following are the vital statistics for the decade :

TABLE 1.2

Births and Deaths : 1911-21

Year	Births	Deaths	Excess of births(+) or of deaths (-)
1911	2,053,324	2,105,292	- 51,968
1912	2,125,585	1,400,807	+ 724,778
1913	2,232,999	1,631,693	+ 601,306
1914	2,104,554	1,567,226	+ 537,288
1915	2,036,121	1,406,743	+ 629,378
1916	2,017,756	1,381,299	+ 636,457
1917	2,157,642	1,774,896	+ 382,746
1918	1,867,844	3,856,762	-1988,918
1919	1,516,497	1,951,662	- 435,165
1920	1,664,192	1,742,845	- 78,643

28 Final Settlement Report, Muzaffarnagar, p. 6.

29 Census of India, United Provinces, 1921, p. 10.

The following is a list of relatively healthy and unhealthy years for the same decade :

Healthy years	:	1912, 1913, 1914, 1915, 1916 ³⁰
Less healthy years	:	1917
Unhealthy years	:	1911, 1920
Very unhealthy years	:	1919
Excessively unhealthy years	:	1918

"The year 1918-19 is, probably, in the matter of health, the worst on record. Apart from severe epidemics of plague and cholera, the province was devastated in the late summer and early winter by influenza between 50 and 70 per cent of the people were attacked..."³¹ The census officer concludes : "The variation (of population) is due to disease, relatively to which all other influences are insignificant : to some extent, to plague, cholera and malaria, but overwhelmingly, to the influenza epidemic."³² That this held true for both Meerut and Muzeffarnagar as well, should be evident from the following statements cited from the settlement reports for the two districts. For Muzeffarnagar, the settlement officer writes thus, in 1921 : "The decrease in the last decennium is 13000; but for the influenza epidemic of 1918 which was responsible for 28,000 casualties, the period would have shown a substantial increase."³³ For Meerut, the settlement officer writes in a similar vein in 1940 :

30 Ibid., p. 13.

31 Ibid.

32 Ibid., p. 14.

33 Final Settlement Report, Muzeffarnagar, p. 6.

"The main reason for the population remaining stationary between 1911 and 1921 was the influenza epidemic of 1918"³⁴

The point we have been trying to make, should, by now, be clear. (During the decades 1872-1921, the major change taking place in the demographic history of our region was the growing importance of disease, relative to famine in causing deaths.)

In our discussion, so far, the major assumption has been that (rates of birth and death, in whatever form were the basic determinants of demographic fluctuations. That is, because migration the other possible determinant of demographic fluctuations as well as changes in area, do not,) from the evidence available, (appear to play a very important role in so far as fluctuations in population are concerned.) With regard to migration, for instance, we get the following information :

TABLE 1.2

Migration³⁵

	Year	No. of people born within district	No. of immigrants	No. of emigrants	% of immigrants	% of emigrants
<u>1903</u> (of every 10,000)						
Muzaffarnagar		8,600	1,400		14.7	9.5
Meerut		9,714			9.9	
<u>1911</u>						
Muzaffarnagar		713,000	96,000	68,000		
Meerut		1,369,000	150,000	124,000		
<u>1921</u>						
Muzaffarnagar		721,000	73,000	67,000		
Meerut		1,372,000	127,000	119,000		
<u>1931</u>						
Muzaffarnagar			100-150			
			per mille			
Meerut			75-100			
			per mille			

³⁴ Final Settlement Report, Meerut, p. 6.

³⁵ Figures for 1911, 1921, 1931 from Census Reports of res. years.

For 1903, no evidence is given regarding emigration from Meerut district but given, that none of the census reports after 1911 mention either Meerut or Muzaffarnagar as districts from which major streams of emigration flowed, we may assume, fairly justifiably, that emigration from Meerut was not very important even at the beginning of the twentieth century.

For 1931, only provincial figures exist in the census report, for emigration; there is, however, even in the absence of figures, no reason to suppose that emigration would have jumped drastically during this decade. All told, migration cannot be said to have been a very important factor in determining fluctuations in population in the districts of Muzaffarnagar and Meerut.

As to area, the settlement officer for Meerut in 1940, says, in no uncertain terms that "the district assumed, more or less, its present form as early as 1859 though since then a number of internal changes of tahsils and parganas have occurred."³⁶

The validity of our assumption - that death rather than anything else determined demographic fluctuations between 1872-1921 should now be evident. We return, therefore, to (the changing pattern of death) that we had elaborated, above. It remains to explain the changes (between 1872-1921, as well as the fundamental break which occurred after 1921. The explanations generally offered relate to improvements in conditions of health or improvements in communications.) A characteristic argument in respect of this, is as follows : speaking of the influence of communications on famines,

³⁶ Final Settlement Report, Meerut, p. 1.

the census commissioner writes in 1911 - "famine no longer means starvation; it amounts merely to a particular kind of unemployed problem. There is always plenty of food, there is merely a shortage of money to pay for it and a shortage of work whereby to earn the necessary money. And there is plenty of food because there is now no difficulty in moving surplus stocks of it from one place to another. Consequently, famine no longer kills, or need kill, and its effect on density is appreciably less."³⁷ The emphasis in the census report of 1921, is similar : "... in the earlier decades, railway communications had not combined with experience to perfect the system of famine administration."³⁸ Similar statements are to be found in the gazetteers, settlement reports and census reports regarding health conditions and extended facilities for irrigation. There is no doubt, that all these factors had a contribution to make in changing the demographic history of our two districts and of the province as a whole. (However, the full import of these factors can be understood only when they are studied in conjunction with changes in production and the conditions of production.) We shall, therefore, study these changes in the course of our study of agrarian change in Muzaffarnagar and Meerut. We hope to arrive at the end of this integrated study, at some understanding of the demographic changes that we have noted, above. The trends in population, delineated, above, would of course, constantly be brought to bear on our study of agrarian change.

37 Census of India, United Provinces, 1911, p. 21.

38 Ibid., 1921, p.

SECTION 6
PRICES

Putting together data from price-wage series, census reports, settlement reports and district gazetteers, we get a fairly adequate survey of price trends for major crops in Meerut and Muzaffarnagar between 1860 and 1930. Perhaps the greatest and most obvious single fact that emerges from a survey of all these data is that (these two districts, during this period of almost half a century, witnessed a virtual revolution in their price history.) The settlement officer for Muzaffarnagar, in 1892 recognises this fairly unambiguously :

"The mutiny and the famine that followed it seem to mark an era in the history of prices, which had maintained their old low level right upto the year 1857. After the famine of 1861 there was a tendency to return to that level, but the influences - whatever they were - that have altered that standard of prices, quickly asserted themselves, and long before the decade was over, what may be called the modern level of prices had been fairly reached."³⁹ This ".... great and marked increase in the prices of the present day as compared with those prevailing before the mutiny", is commented upon in the district gazetteer for Muzaffarnagar, thus : ".... the famine of the latter years (1861) must have been very severe indeed, although the highest prices would not be considered excessive today."⁴⁰

Similar comments on the greatly reduced purchasing power of the rupee

39 Settlement Report, Muzaffarnagar, 1892, p. 44.

40 Muzaffarnagar : A Gazetteer, p. 60.

are contained in the gazetteer for Meerut district as well. In the gazetteer for Muzaffarnagar the district officer highlights also, the universal character of this rise in prices : "The general rise of prices is not peculiar to this district.... a similar state of things has occurred in all districts of this division."⁴¹

As for evidence regarding the actual rise in prices, it is best seen in the following table (Table 1.4) from the prices-wage series, (between the years, 1860-1920.) On the basis of the table, it is possible to establish certain phases in the upward movement of commodity-prices : 1860-85; 1886-1905; and 1906-1930. Basically, these dates signify points at which the secular upward movement in prices establishes a qualitatively higher average level of prices. This holds good for all major crops. (The greatest and most clearly marked rises are in the case of wheat and sugar.)

Mr Miller the Settlement Officer in 1892 plotted the price movement for Muzaffarnagar district on graphs. (See graphs). These graphs confirm not only the upward movement in prices of agricultural commodities but even our periodisation of this movement, at least upto 1890.

(The uniformity in the pattern of) this secular (upward movement in prices, is striking.) It is confirmed also by data from gazetteers and settlement reports. The gazetteer for Meerut indicates the beginning of the tendency for prices to rise, as early as 1819. Then, wheat sold at 18 sers to the rupee, gram at 22 sers and barley at 23,

41 Ibid., p. 60.

Meerut/Muzaffarnagar

TABLE 1.4

Prices of Major Agricultural Commodities - 1860-1920⁴²

Rupees/Maund

Year	WHEAT		JWAR		BAJRA		GRAIN		MAIZE		GUR	
	Meerut	Muzaffar-nagar	Meerut	Muzaffar-nagar	Meerut	Muzaffar-nagar	Meerut	Muzaffar-nagar	Meerut	Muzaffar-nagar	Meerut	Muzaffar-nagar
1	2	3	4	5	6	7	8	9	10	11	12	13
1860												
1861	2.57	3.43	2.61	4.99	2.38	5.31	2.74	2.90	-	-	-	-
1862	1.23	2.16	1.10	2.06	1.14	2.16	1.24	1.40	-	-	-	-
1863	1.25	1.13	1.41	1.52	1.37	1.61	1.01	0.95	-	-	-	-
1864	1.73	1.73	1.70	1.73	1.85	1.71	1.44	1.38	-	-	-	-
1865	1.98	1.96	1.91	1.73	2.29	1.87	1.69	1.27	-	-	-	-
1866	1.75	1.73	1.75	1.66	2.06	2.06	1.48	1.26	-	-	-	-
1867	1.91	2.16	1.71	1.73	1.79	1.96	1.87	1.90	-	-	-	-
1868	1.60	2.38	1.87	2.44	1.91	2.49	1.57	2.43	-	-	-	-
1869	3.10	3.74	3.36	4.01	4.11	4.22	3.49	4.15	-	-	-	-
1870	2.61	2.99	1.79	2.19	1.85	2.46	2.65	3.34	-	-	-	-
1871	1.69	1.52	-	1.24	1.45	1.33	-	-	-	-	-	-
1872	1.68	1.72	1.94	1.93	1.93	1.95	1.69	1.73	-	-	-	-
1873	2.03	2.05	1.53	1.55	1.66	1.90	1.61	1.68	-	-	-	-
1874	1.98	1.85	1.75	1.67	2.01	1.86	1.59	1.46	-	-	-	-
1875	1.84	1.72	1.61	1.47	1.65	1.81	1.50	1.45	-	-	-	-
1876	1.59	1.60	1.47	1.40	1.42	1.63	1.23	1.35	-	-	-	-
1877	2.07	2.08	1.83	1.64	2.11	2.00	1.57	1.55	-	-	-	-
1878	2.74	2.62	2.83	2.62	3.07	3.54	2.60	2.54	-	-	-	-
1879	2.75	2.72	2.19	2.13	2.40	2.38	2.64	2.65	-	-	-	-
1880	2.22	2.24	1.67	1.70	1.72	1.79	2.02	2.14	-	-	-	-

Cont'd... Table 1.4

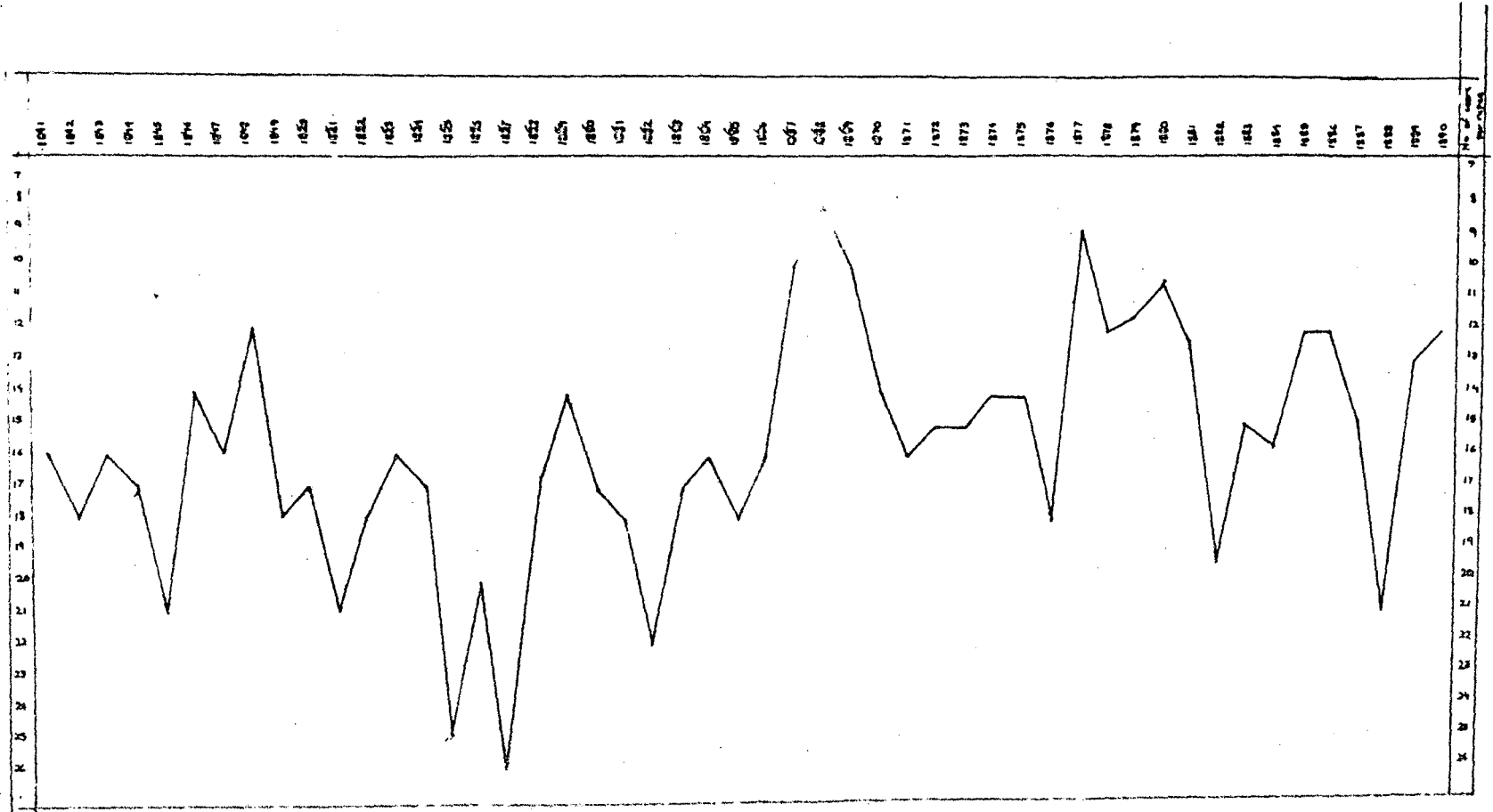
1	2	3	4	5	6	7	8	9	10	11	12	13
1881	2.01	2.05	1.76	1.67	1.98	-	1.88	1.85	-	-	-	-
1882	2.22	2.09	1.55	1.42	1.82	1.70	1.72	1.63	-	-	-	-
1883	2.28	2.16	1.44	1.36	1.89	1.65	1.62	1.57	-	-	-	-
1884	2.01	1.92	1.63	1.98	1.82	1.75	1.62	1.54	1.50	1.53	-	-
1885	1.85	1.76	1.44	1.42	1.61	1.49	1.46	1.43	1.29	1.32	-	-
1886	2.24	2.11	1.69	1.67	1.91	1.85	1.49	1.52	1.60	1.54	-	-
1887	2.73	2.54	2.41	2.25	2.36	2.45	1.94	1.97	2.03	2.01	-	-
1888	2.74	2.63	2.21	2.05	2.52	2.32	1.95	1.97	2.08	2.06	-	-
1889	2.43	2.29	1.76	1.74	2.10	2.21	1.76	1.62	1.68	1.78	-	-
1890	2.49	2.38	2.05	2.08	2.19	2.72	2.07	2.02	1.97	2.07	-	-
1891	2.90	2.87	2.64	2.88	2.71	3.23	2.24	2.21	2.46	2.68	-	-
1892	2.45	2.84	1.99	2.08	2.35	2.49	1.95	1.92	2.05	2.32	-	-
1893	2.25	2.48	1.71	1.82	2.18	2.45	1.65	1.76	1.88	2.06	-	-
1894	2.08	1.99	1.51	1.59	2.03	1.96	1.48	1.44	1.43	1.58	-	-
1895	2.50	2.29	2.15	1.98	2.41	2.50	1.84	1.76	2.18	1.82	-	-
1896	3.37	3.23	3.11	3.25	3.20	3.77	2.78	2.99	2.80	4.07	-	-
1897	4.04	3.86	3.51	3.35	3.45	3.24	4.16	4.11	3.56	3.01	-	-
1898	2.81	2.63	2.21	2.02	2.25	1.94	2.40	2.40	1.83	1.69	-	-
1899	2.74	2.53	2.43	1.89	2.50	2.47	2.62	2.52	1.92	1.62	-	-
1900	3.48	3.22	3.62	3.18	3.36	2.61	3.79	3.62	3.16	1.91	-	-
1901	3.12	2.85	2.02	1.92	2.11	1.94	2.47	2.30	2.00	1.82	4.43	-
1902	2.45		1.63		1.78		2.14		1.59		-	-
1903	2.48		1.94		1.94		2.00		1.64		-	-
1904	2.39		1.50		1.66		1.75		1.34		-	-
1905	2.86		1.76		1.98		2.06		1.99		4.97	

Cont'd... Table 1.4

1	2	3	4	5	6	7	8	9	10	11	12	13
1906	2.95		2.79		2.37		2.60		2.44		5.70	
1907	3.50		3.08		3.34		2.72		2.91		5.02	
1908	4.55		3.90		3.60		3.97		3.19		5.03	
1909	4.03		2.58		2.62		3.00		2.61		5.18	
1910	3.25		2.14		1.91		2.04		2.11		4.14	
1911	2.89		-		2.64		2.10		2.08		5.01	
1912	3.17		2.20		2.59		2.31		2.15		4.82	
1913	3.49		2.73		3.12		2.69		2.62		4.44	
1914	4.20		3.23		3.41		3.58		3.08		4.30	
1915	4.76		3.46		3.62		3.39		3.33		6.25	
1916	3.97		2.81		3.32		3.16		2.75		5.32	
1917	4.18		2.86		3.22		3.20		2.73		6.05	
1918	5.32		3.39		4.2		4.11		3.50		5.72	
1919	6.49		5.92		6.58		6.29		5.32		9.38	
1920	6.03		4.73		5.07		5.57		4.69		9.08	

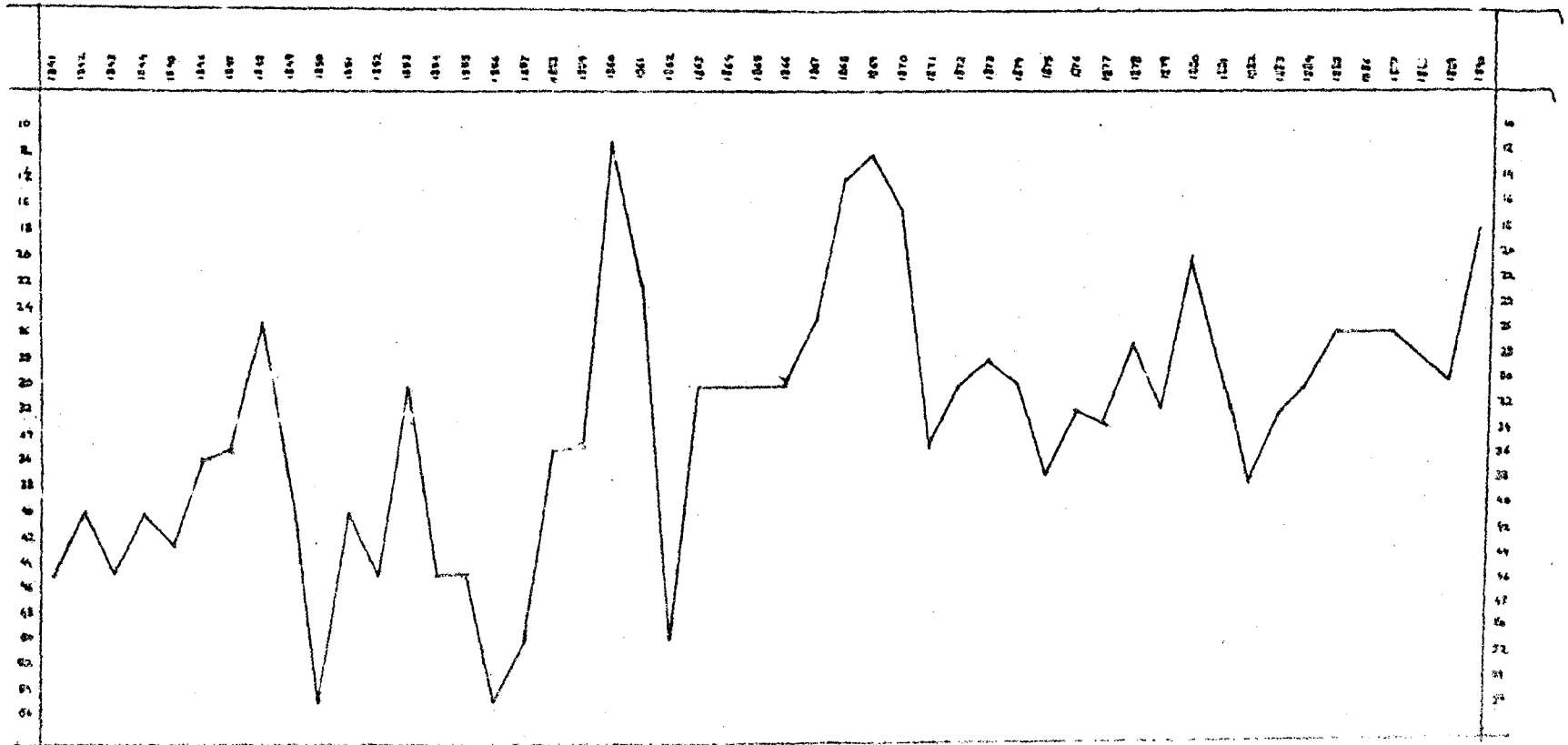
GRAPH - A

Diagram illustrating the Prices of Gur in the Muzaffarnagar District



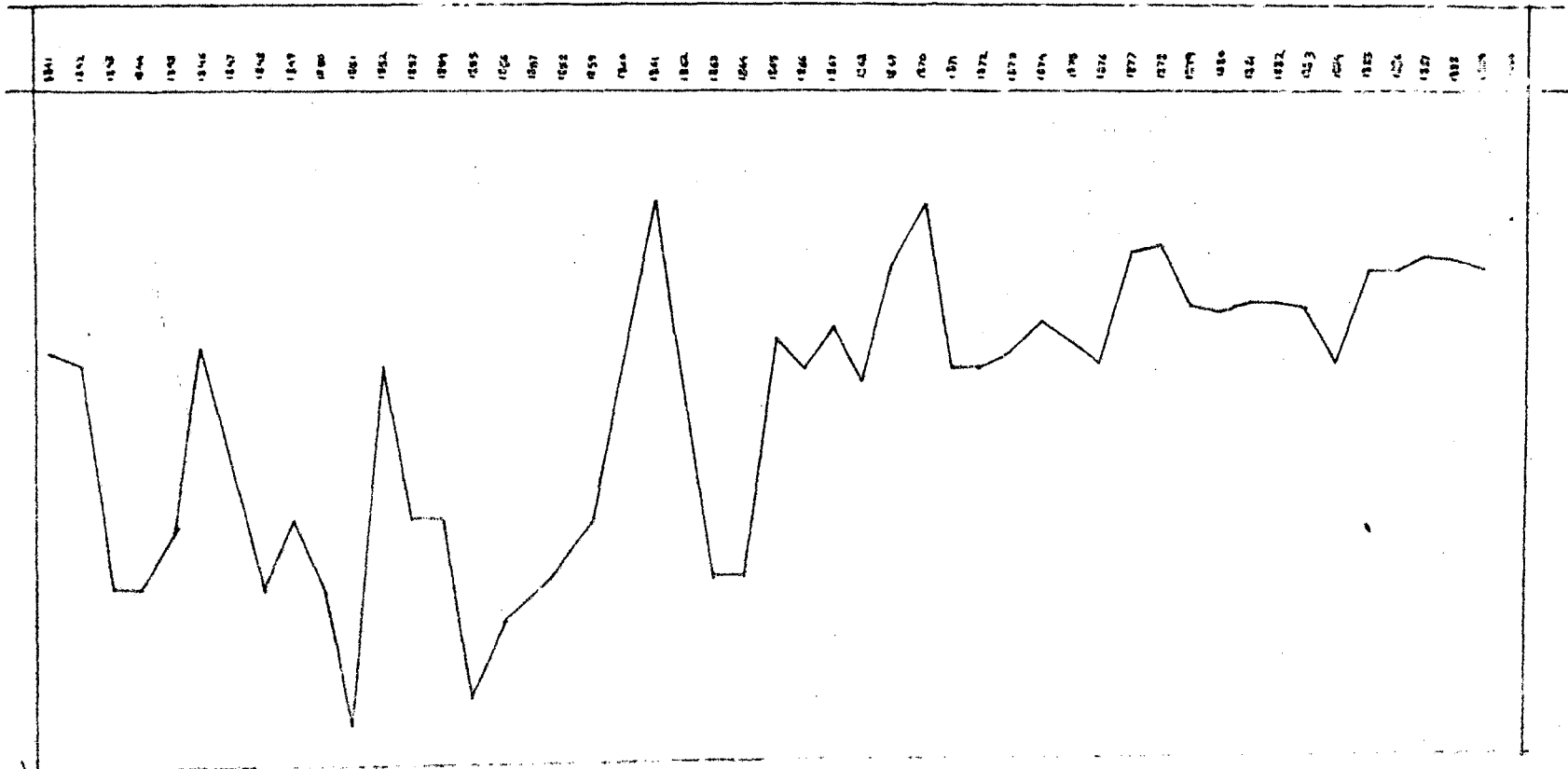
GRAPH - 8

Diagram Illustrating the Prices of Maize in Muzaffarnagar District
1841 to 1890



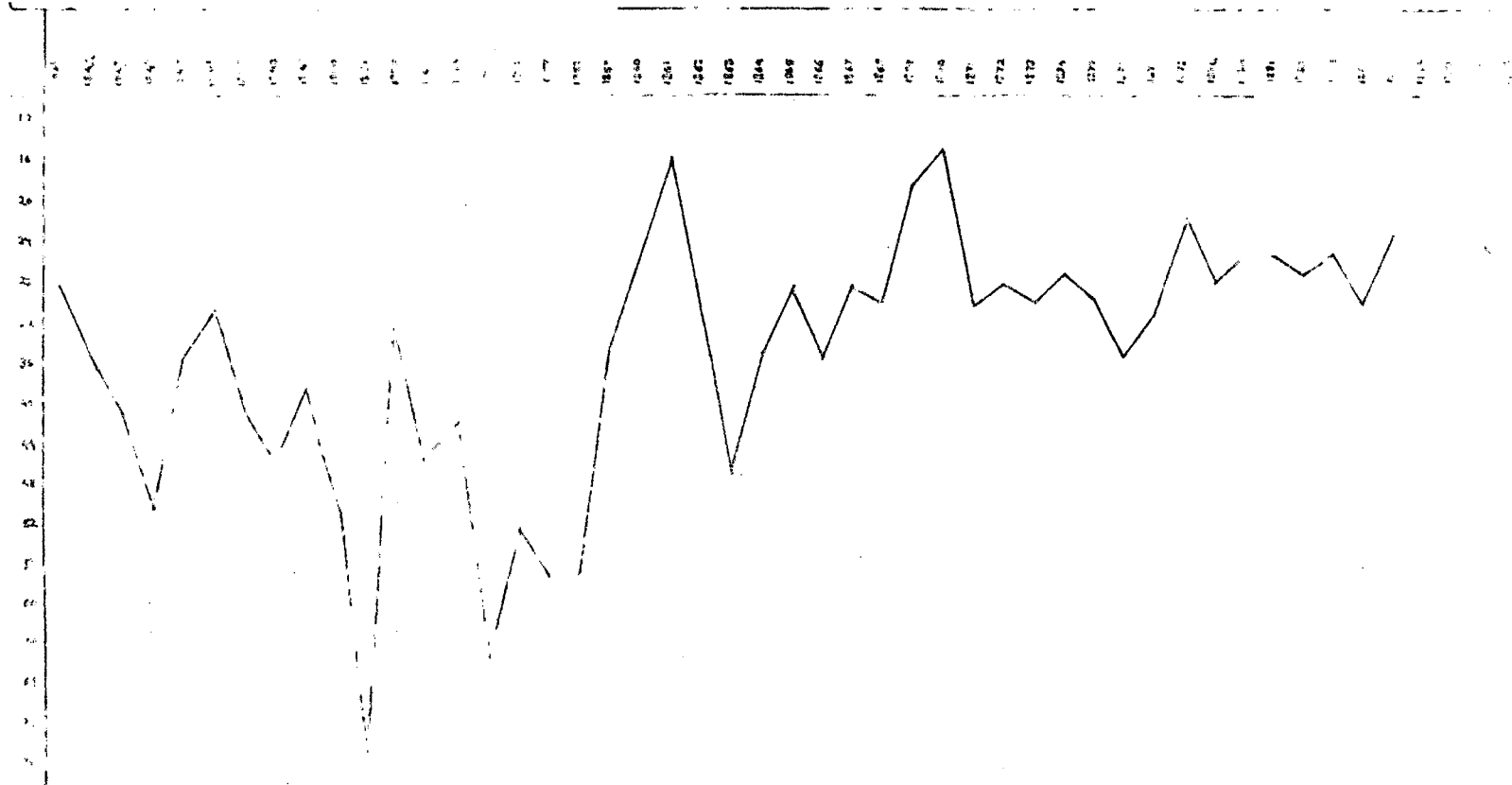
GRAPH - C

Diagram illustrating the Prices of Wheat in Muzaffarnagar District
1841 to 1890



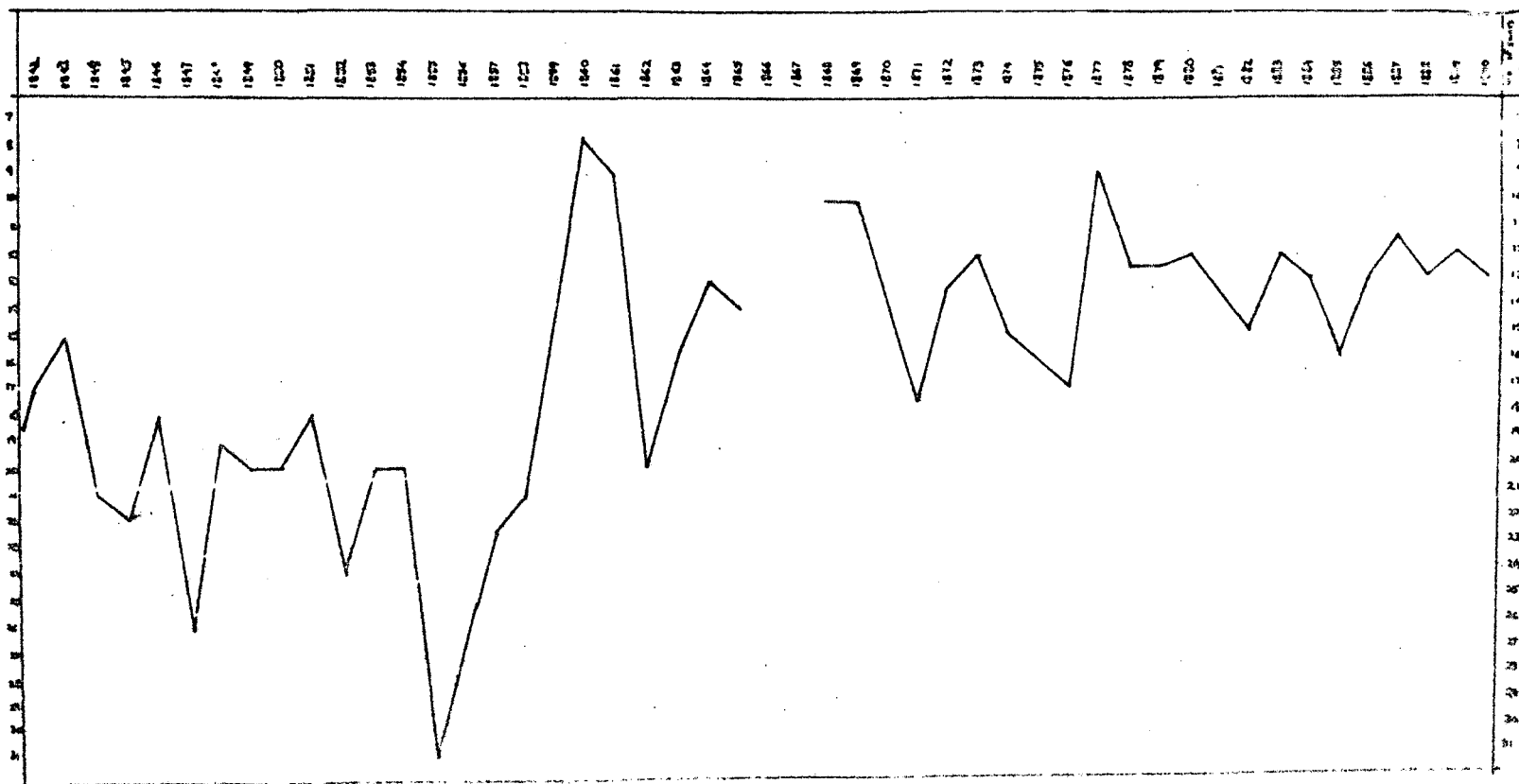
GRAPH - D

Diagram Illustrating the Prices of Grem in Fuzaffarnagar District
1841 to 1890



GRAPH - E.

Diagram Illustrating the Prices of Rice in Muzaffarnagar District
1841 to 1890



as compared to the ridiculously low prices of 50 sers of wheat, 70 sers of gram, 80 sers of barley, 60 sers of bajra and 100 sers of maize, per rupee, in 1806. By 1819, "the modern tendency of prices to remain in the neighbourhood of the high watermark was noticeable." Between 1831-1841 when wheat sold at an average price of 28½ sers per rupee, "the low prices of older times were already a thing of the past." From 1850-1870 the average price of wheat was 28½ sers; barley 33 sers; gram 29 sers; and maize 33 sers. From 1873-1887, the average price of wheat had risen to 20½ sers; gram to 25 sers and maize to 25½ sers. Between 1887 and 1897, wheat had risen to 17 sers; gram to 21 sers and maize to 21½ sers. Thus it is estimated in the gazetteer, that ¹³⁶⁻¹⁵² in the course of half a century, wheat had increased in price, by 53 per cent, gram by 43 per cent, and maize by 42 per cent.⁴³ The periodisation in this case is different from our earlier periodisation on the basis of the price-wage series, but these figures are adequate for our purposes, in so far as they go to prove the general tendency of prices to rise. Data from the settlement report for Meerut in the year 1940, not only confirm this tendency, but extend it right upto the year 1929 after which the price level suffered a massive slump. The following table shows this very clearly (Table 1.5).

As in the case of Meerut, so also in the case of Muzaffarnagar, data on prices tends to confirm this general tendency for prices to rise. In the settlement report of 1891 for Muzaffarnagar district,

43 Meerut : A Gazetteer, p. 60.

TABLE 1.5

Movement of Prices- District Meerut - 1865-1936⁴⁴

Period	Price Index
1865-74	89
1890-95	100
1901-05	124
1901-15	152
1916-29	231
1930-36	126

the settlement officer takes, as his basic data, for purposes of comparison, the recorded bazaar prices from 1840 onwards at two marts, Jalalabad in the north-west and Miranpur in the south-east of the district. Aware of the possible sources of error in any comparison - prices may be given for different seasons of the year, or the methods adopted by the merchants of casting up an average annual price may vary, or different qualities of the same grain or staple may be taken etc., - the settlement officer does the best he can to avoid mistakes, by taking a long series of prices from one mart in which it may reasonably be hoped that a uniform practice in preparing the annual price lists prevailed - and comparing these with others.



44 Final Settlement Report, Meerut, Statement 9,

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TABLE 1.6
PERCENTAGE INCREASE OF PRICES OF 1886-1890⁴⁵
Over Prices of 1841-60 and 1861-70

<u>Grain</u>	<u>Mart</u>	<u>1886-90</u>			Percent increase Column I over Column III	Percent increase Column II over Column III
		Av. price in sars per Re. for 1841-60	Av Price in sars per Re. for 1861-70	Av price in sars per Re. for 1886-90		
Wheat	Jalalabad	35.25	24.80	19.00	86	31
	Miranpur	32.32	19.65	16.05	101	22
	Mean	33.78	22.22	17.52	93	26
Barley	Jalalabad	51.25	37.30	28.00	83	33
	Miranpur	45.90	29.92	25.45	80	18
	Mean	48.57	33.61	26.72	82	25
Gram	Jalalabad	44.44	28.00	22.50	98	24
	Miranpur	33.15	20.02	20.00	66	-
	Mean	38.79	24.01	21.25	82	12
Rice	Jalalabad	47.82	38.70	29.50	62	-
	Miranpur	20.20	13.25	12.45	62	6
	Mean	34.01	25.97	20.97	62	18
Meize	Jalalabad	39.62	25.90	25.60	55	1
Juar	Jalalabad	39.72	26.22	17.80	123	47
Bajra	Jalalabad	31.74	22.20	18.10	75	23
Gur	Jalalabad	17.80	14.90	14.60	20.	2
	Miranpur	16.12	10.67	11.10	45	-
	Mean	16.96	12.78	12.85	33	1
Cotton	Miranpur	5.11	2.53	2.60	97	-

⁴⁵ Settlement Report, Muzaffernagar, 1892, p. 43.

A calculation based on the above figures shows, that prices of foodgrains had increased by about 80 per cent from what they were in the period preceding the last settlement. That this upward tendency continued even after the 1890's is clear from such statements as the following : ".... since 1890, prices have risen throughout the district to a most alarming extent ..."⁴⁶ For the post 1900 period, we will have to rely solely on the data from the price-wage series cited above - due to the absence of any other supportive evidence. There is no reason to believe that the trend of prices in Muzaffarnagar would have been any different from the trend in Meerut, during the 1920's and 1930's.

This very broad general movement of prices apart, a closer look at the price movements reveals certain other interesting features. The first thing to be noted is, that (price movements in both districts reveal a gradual delinking of prices from harvests. This is considered in terms of the lower amplitude of price fluctuations in successive famine years.) This is noted as early as 1892 by the settlement officer for Muzaffarnagar district : "not only are the variations between years of plenty and years of scarcity, less marked, but during the last season of famine, which was one of peculiar severity, prices were actually lower than they had been in previous years of scarcity."⁴⁷ The gazetteer for Muzaffarnagar district confirms the opinion of the settlement officer in this regard : "A very noticeable point in the history of prices in this

46 Muzaffarnagar : A Gazetteer, p. 59.

47 Settlement Report, Muzaffarnagar, 1892, pp. 44-45.

district is that nowadays there are none of the excessive variations that formerly occurred from time to time. Prior to the mutiny and the famine of 1861 the average was very low, but the sudden drops and rises were extraordinary and must at times have pressed very hardly on the poor population."⁴⁸ What is being suggested is certainly not that there were no price fluctuations between periods of scarcity and periods of plenty, after the 1860's or 1870's. (Prices did fluctuate, going up in years of famine and falling in years of plenty; the argument is, that the intensity of these fluctuations was severely reduced after the mid-nineteenth century.) This would be clear from a very simple analysis of the price data from the price wage series together with discussions in the gazetteers and settlement reports, in this regard.

In both Meerut and Muzaffarnagar, prices during the famine of 1869 ruled much higher than during the famine that followed. This is evident from a glance at the price data in the price wage series (attached). It is pointed out, also, by the settlement officer for Muzaffarnagar in 1891. By averaging out the prices for two seasons closest to a famine, the settlement officer presents us with the following result for these two famine years. What is presented is the average price of rice, wheat, barley and gram :

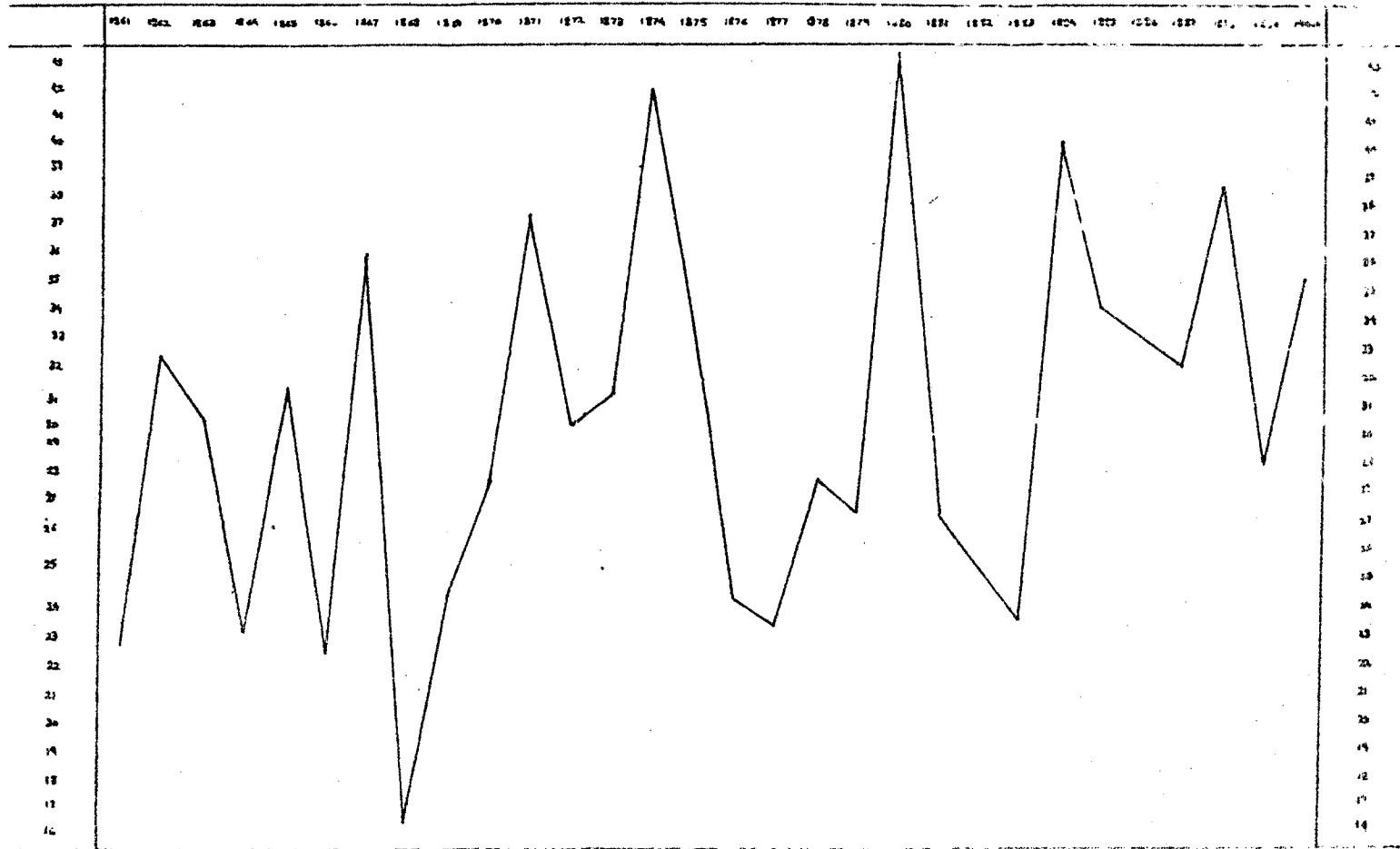
In the years affected by the famine of 1868-69 : 16.75 sere per rupee.⁴⁹
In the years affected by the famine of 1877-78 : 20.5 " "

48 Muzaffarnagar : A Gazetteer, p. 60.

49 Settlement Report, Muzaffarnagar, 1892, p.

It could of course, be argued that the famine of 1869 was much more severe than that of 1878-79. The rainfall graph for Muzaffarnagar (attached) would tend to indicate that. Never in the entire period covered by the graph, was rainfall as low as it was in 1868 - a mere 16 inches. What is significant, however, is the fact, that the longterm tendency in the entire period that concerns us, seems to have been for famines to have a much less severe impact on price movements than they may have had earlier. It would be wrong in this context to judge the impact of famines on prices simply by reference to absolute price figures as has been the method used by the settlement officer in 1891; for we have to bear in mind the fact that we have a price graph that is continuously rising. We cannot, therefore, compare simply, the absolute prices in 1877-78 and those between 1896-1900, and conclude that the impact of the latter famine was greater than that of the former, the reason being that these famines, and hence also, the fluctuations in price, occur at different points and in two distinct phases in the upward movement of prices, the famine of 1896-1900 occurring during a phase, when, as we have seen earlier, the upward movement of prices had reached a level qualitatively higher than that between 1860-85. This, we have seen already. It would be clearer from the fact that even after the price rise during the famine of 1896-1900, prices never regress to levels found during the decades of, the 1860's, 1870's and early 1880's, even though they do fall once harvests normalise. This pattern of price movement holds good even for the

Chart illustrating the Annual Rainfall in Muzaffarnagar District since 1861



phase following 1905. Here again, prices do fall once the famine of 1907-08 is over, but they stabilise at a level much higher than that preceding 1905. Hence, here again the impact of famine on prices cannot be judged simply from the absolute price figures but only by keeping in mind the new phase of the price rise. As compared to the famine of 1868-69, it would be clear from the price levels during the following years that the variations between years of plenty and years of scarcity were much less marked than previously. The enormous jumps in price - in 1851, wheat in Muzaffarnagar rose at a bound from 49 sers to 25 sers; three years later, it fell to 47 sers and then rose to 15 sers in 1861⁵⁰ - seemed towards the end of the nineteenth century, to be a thing of the past. This trend continued until the end of the 1920's.

(Besides the rise in prices and growing price stability, one other feature of the movement in prices of crops, needs comment. That is, the tendency towards the equalisation of prices in our two districts over this period. And not only an equalisation within these two districts, but equalisation, also between these two districts.) Not only do the phases of price rise and decline that we have delineated above, apply equally to both Meerut and Muzaffarnagar; equally important, on an average, the range and extent of price fluctuations within each phase, are more or less similar for both districts. This should be fairly clear from the price data we have cited earlier. (The rise in prices, the growing price

50 Muzaffernagar : A Gazetteer, pp. 59-60.

stability and the tendency towards greater and greater equalisation of prices, are of tremendous significance. Considered together, they (suggest that the character of the movement of prices was changing from that characteristic of a pre-capitalist cycle.) Price movements in the latter case are almost solely determined by the success or failure of harvests, i.e. there occur intense short-term fluctuations in price. There is, no doubt, a long-term secular tendency towards rising prices, but within that, amplitude of fluctuations would appear to be determined by the success or failure of the monsoons. Moreover, there appears to be very little uniformity in the movement of prices in different regions. The fact that harvest failures were coming to exert less and less of an impact on the movement of prices, and the fact that prices were tending to equalise between different regions and that a secular upward movement was established would (suggest major changes in the character of the aggressive commodities market.) The settlement officer for Muzaffarnagar in 1891, wrote thus regarding this change : "It cannot be attributed either to the depreciation of silver in reference to gold or to the opening out of local communications, as the old ratio of the precious metals was maintained upto 1870, and the north-western railway was opened only in 1868. It must apparently have been due to causes of a more general nature, which by facilitating communications with the seaports, and bringing India into closer connection with Europe, operated to wheel Indian prices into line with those of the other markets of the world. The great and rapid rise of prices coincides with an equally great and equally

rapid increase in the value of Indian exports; and the conclusion seems to be that it was in the decade from 1860 to 1870 that prices ceased to be affected by local conditions only, and came within the influence of the trade not only of the other parts of the Indian empire but of the world, at large."⁵¹

That this was, in fact, true, would be clear from evidence on trade. While speaking of the trade of district Muzaffarnagar, the settlement officer in 1891, points to the importance of the export of wheat and sugar in the commerce of the district : "... its trade in a general sense, does not extend beyond speculation in and transport of agricultural produce. Most noticeable is the export of wheat which has obtained a good name and commands a high price in the European market. Large quantities of sugar, usually unrefined, are also exported ..."⁵² Mr Miller also provided figures for the export of wheat from the Muzaffarnagar and Khatauli stations during the decade 1880-1890. In the five years from 1881-1885, an average amount of 787,557 maunds of wheat was exported from these two stations annually, together with 673,325 maunds of sugar.⁵³ In the succeeding five years, however, the amount decreased very greatly, at least in the case of wheat. The figures for Khatauli were not available but the average export from Muzaffarnagar was

51 Settlement Report, Muzaffarnagar, 1892, p. 44.

52 Ibid., p. 25.

53 Ibid., Statement showing exports of wheat and sugar from Muzaffarnagar and Khatauli from 1st July 1881 to 30th June 1891, p. 25.

437,167 maunds.⁵⁴ Figures for the export of wheat from Muzaffarnagar, between 1897 and 1901, show that trade in this foodgrain was again on the increase. Between 1897 and 1901 the average export of wheat from Muzaffarnagar amounted to 700,780 maunds, the figure of the last 2 years being almost double those of the first half of the period. In addition, from Khatauli, the amount of wheat exported, averaged 53,310 maunds.⁵⁵ As for sugar in the table cited by Mr Miller, a comparison is possible for refined sugar only - since for unrefined sugar no figures exist for the five years, 1881-86 - and here there is a decline in the annual average amount exported. We are told in the district gazetteer, however, that export of "sugar showed a decisive increase amounting to nearly a lakh of maunds."⁵⁶ If we add up the average figures for refined and unrefined sugar during the period 1886-87 to 1890-91, and compare them to the average figure for export of refined sugar during the years 1880-81 to 1885-86, then indeed the former exceed the latter by over a lakh maunds.⁵⁷ That perhaps is the method whereby the district gazetteer for Muzaffarnagar has arrived at the results it has.

Data is also provided by Mr Miller on the value of wheat and sugar exported. This data, however, covers a very short period, 1887 to 1891. Representing a conjuncture, more than anything else,

54 Ibid., p. 25.

55 Muzaffarnagar & A Gazetteer, p. 62.

56 Ibid.

57 Settlement Report, Muzaffarnagar, 1892, table, p. 25.

it is of limited use for our purposes, but we may refer to it for whatever it is worth. Perhaps the most striking thing about these figures is the jump in value that is seen between the average value of the exports of the years 1887 to 1890, and the average value of the exports of the first half of 1891. While the annual average value of exports in the former period amounted to Rs. 2,888,083 the total value of exports for the first six months of 1891 equalled Rs. 4,671,429.⁵⁸ Mr Miller comments thus, about this increase: "in the first six months of 1891, the wheat exported was more than double the highest quantity exported during any previous six months; and the exports of sugar also showed a marked increase."⁵⁹ The value of exports during these six months was

TABLE 1.7

Figures showing exports of agricultural commodities⁶⁰

	Rs.
Wheat	1,415,334
Refined Sugar	535,561
Unrefined Sugar	2,720,534
TOTAL	4,671,429

Perhaps in itself, this sudden jump is not very important. By itself, it is no indicator of any long-term trend towards increasing exports. What makes it significant, however, is the fact of the

⁵⁸ Settlement Report, Muzaffarnagar, 1892, p. 26.

⁵⁹ Ibid.

⁶⁰ Ibid., Table, p. 26.

revival of exports - that we have pointed to, beginning towards the end of the 1890's and continuing into the 1920's. Placed in that context, it possibly suggests that the increase in the value of exports during the first six months of 1891 although very sudden, was not, however, fortuitous.

As for trade in Meerut district, "as early as 1869, it was found profitable to send grain by rail even to Calcutta and the same was observed in 1873 The road traffic is very heavy owing to the enormous trade in wheat and sugar ..."⁶¹ The gazetteer then goes on to provide us with some figures showing the expansion in volume of the trade of district Meerut. For 1870, we are supplied only with figures for the import of grain and sugar into the district - 269,600 and 39,000 maunds, respectively.⁶² In 1901, the grain imported into Meerut, Hapur, Ghaziabad, Sardhana and Baghpat amounted to 1,451,300 maunds and the grain exported to 390,000 maunds.⁶³ If Kaiserganj, the bonded warehouse in Meerut city is included, the import of grain between 1896 to 1901 may be said to have increased by an additional 942,000 maunds, and the export by 729,000 maunds.⁶⁴ As for sugar, the average import amounted to 870,300 maunds, and the export, 849,500 maunds.⁶⁵ The

61 Meerut : A Gazetteer, p.

62 Ibid., p. 62.

63 Ibid.

64 Ibid.

65 Ibid.

increase under both heads, is indeed remarkable. That the growth of trade, especially the export trade showed no sign of relenting even well into the twentieth century is suggested by the settlement officer for Meerut in 1940 : "The main trade of the district is the export of agricultural produce, chiefly sugarcane and wheat."⁶⁶

Together with this (boom in trade had occurred the rise of towns and an improvement in communications.) As far as towns go, the town of Muzaffarnagar in district (Muzaffarnagar, was perhaps the supreme example of a new market centre.) "It is, Mr Miller tells us, "an important centre of the wheat trade, and its bazaars present a spectacle of unusual activity during the exporting season."⁶⁷ In fact, (the importance of large-scale trade in agricultural produce can be inferred from the manner in which it was coming to determine the fate of towns.) An example, we have already seen is Muzaffarnagar. The other was Khatauli "a place that is yearly of growing importance."⁶⁸ With the rise of these towns, there occurred also, the decline of towns which had been important earlier - Thana Bhawan, Jalalabad, Jhinjhana, Kandhla, Bagra, Chartawal, Purzaki, Shamli and Miranpur.⁶⁹ There we are told in the Settlement Report of 1891 that with regard to population, ^{there} has been more frequently, a falling off than an increase during the last twenty years in the outlying towns, while in Muzaffarnagar there has

66 Final Settlement Report, Meerut, p. 6.

67 Settlement Report, Muzaffarnagar, 1892, p. 12.

68 Muzaffarnagar : A Gazetteer, p. 61.

69 Settlement Report, Muzaffarnagar, 1892, p. 12.

been a striking increase of close to 80 per cent.⁷⁰

✓ (In district Meerut,) we notice something similar. (Apart from Meerut city itself, the other towns are either centres of the grain trade or of industry. Hapur) Mr Cooke tells us, for instance, with a population of 25,116 (was one of the biggest wheat marts in Northern India.⁷¹) In the Gazetteer also, Hapur is described as "a large and increasing trade centre, and there is every prospect of the place becoming of more and more importance."⁷² Ghaziabad, with a population of 18,831 is described in the gazetteer as a "thriving place of business, and should show a rapid development in the near future."⁷³ According to Mr Cooke, (Ghaziabad carries on a considerable trade in wheat and grain with Delhi,) which is only twelve miles away.⁷⁴ (As in Muzaffarnagar, so also in Meerut the process of the emergence of new markets and the eclipse of older ones,) is embodied in the rise of Chaprauli and Khakhra at the expense of Baghpat and Baraut. Shahdara, its trade being insignificant, suffered decline.⁷⁵

Very clearly, therefore, (in both) Meerut and Muzaffarnagar (a reshuffling was going on between old and new towns towards the end of the nineteenth century. The major determinant) of this entire

70 Ibid., p. 13.

71 Final Settlement Report, Meerut, p. 6.

72 Meerut : A Gazetteer, p. 61.

73 Ibid.

74 Final Settlement Report, Meerut, p. 6.

75 Meerut : A Gazetteer, p. 61.

process, (was trade.) It was by virtue of being the most efficient centre of market that (towns in this period shot into prominence.) And that too, (centres of market for the trade in agricultural produce, primarily grain and sugar.) Further, the major determinant of whether or not a town would be an effective market centre, was dependent on (the facilities of communications that it possessed, primarily railway communications.) This too would indicate far reaching changes in trade, its nature and bulk.

"Almost the whole of the export trade of the district," the gazetteer for Muzaffarnagar tells us, "is carried on by means of the railway, and consequently the places which possess railway stations are all of more or less importance as centres of the grain trade."⁷⁶ Perhaps the most striking examples are the towns of Muzaffarnagar and Khatauli in district Muzaffarnagar, both of which owed their meteoric rise to prominence during the course of the nineteenth century to the construction of the railway.⁷⁷ Conversely, Jalaalabad, the most important grain mart of the district, declined "on account of its distance from the rail and the great lines of communication."⁷⁸ As (for Meerut district, Ghaziabad town owed its importance as a major commercial centre, largely to the fact that it was an important railway junction, as well.)⁷⁹ Very clearly then, trade had acquired proportions that made new towns and movement of

76 Ibid., pp. 60-61.

77 Ibid., p. 61.

78 Ibid., p. 60.

79 Final Settlement Report, Meerut, p. 6.

goods by rail, absolutely necessary. Let us see the extent to which communications did, in fact, develop over this entire period.

The major land marks in the development of rail communications in Muzaffarnagar were the construction of the North-Western Railway in 1869, traversing the central portion of the district from south to north and secondly, the opening of the Shahdara - Saharanpur Light Railway in 1907, in the western part of the district.⁸⁰ The North-Western Railway served the Ganges Canal Tract as a whole. The Shahdara - Saharanpur line running parallel to the eastern Jamuna Canal and providing direct access to Delhi by rail, virtually revolutionised the communications of the western part of the district. "The effect of its construction", the settlement officer for Muzaffarnagar tells us in 1921, "can best be appreciated by a comparison of the condition of the tract now and at last settlement. North of Shamli Mr Miller describes it as 'ill-cultivated and sparsely populated with many of the villages buried in jungles of dhak trees.' Its present state is well pictured by the remark of a stranger seeing it for the first time that "here the villages are cities."⁸¹ In addition to these two main lines of rail communications within district Muzaffarnagar, the southern part of the Ganges lowlands lay close to the stations of Lhakear and Raisi on the Gwdh and Rohilkhand main line, and had therefore, fairly adequate access to the outside world.⁸² In addition to

80 Final Settlement Report, Muzaffarnagar, p. 5.

81 Ibid.

82 Ibid.

communication by rail, there also occurred a development in communications by road. The most important metalled roads within the district were the Grand Trunk Road serving once again, the Ganges Canal Tract, a metalled branch of the Grand Trunk Road constructed at the beginning of the twentieth century, and the Muzaffarnagar Bijnor Road also constructed at about the same period.⁸³ The Ganges Canal Tract with the Grand Trunk Road as well as the North Western Railway would appear perhaps, to be the best supplied with communications facilities. The metalling of the Muzaffarnagar-Bijnor Road was an added advantage for the southern part of the low lands, already served by the Oudh-Rohilkhand main line.⁸⁴ The western portion of the district was fairly poorly served by roads. In addition to the major metalled roads within the district were a series of "broad unmetalled roads to connect the large outlying towns with Muzaffarnagar and with the towns of the adjoining districts."⁸⁵ Considering the development of communications of the district as a whole during the period between the settlement of 1892 and the 1921 settlement, the settlement officer concludes, thus : "... though there is much room for further development, communications have taken a large stride forward during the period of settlement."⁸⁶ As a feature suggestive of this, the officer points to the "appearance of many motor lorries", a relatively novel phenomenon of transport in the district.⁸⁷

83 Ibid.

84 Ibid.

85 Ibid.

86 Ibid.

87 Ibid.

Affirming the importance of communications to the development of trade, the settlement officer for Meerut, in 1940, suggests "that after quality of soil and irrigation, there is no factor that influences the prosperity of a tract more than the means of communication with markets for its produce."⁸⁸ Going on to compare Meerut district with Muzaffarnagar and Bulundshahr, the settlement officer is of the opinion that Meerut, although much poorer than the other two districts, in respect of soil fertility, was definitely superior in respect of communications facilities.⁸⁹ Delhi lay only 40 miles away from Meerut city and the big markets of Meerut and Ghaziabad were even closer.⁹⁰ Direct communications by road and rail with Delhi and by rail, with the Punjab, Rohilkhand and even Calcutta and Bombay, were excellent. The main north-west railway line and the East India railway main line were two important railways serving Meerut district. The opening of the Shahdara - Saharanpur light railway did wonders for the western portion of the district, by opening up the Jumna-Hindon Doab which contains some of the richest regions of tehsil Baghpat. This tract was previously rather poorly served with communications. Similarly, a new steam tramway from Mawana to Daurala has had implications of equal significance. Originally constructed in 1935, the total length of the tramway, at the time of the final settlement of Meerut district was 30 miles,

88 Final Settlement Report, Meerut, p. 4.

89 Ibid.

90 Ibid.

and "its value in opening up the cane growing area in the north of tehsil Mawana can hardly be exaggerated."⁹¹

Not only was Meerut district well provided with railway communications; by 1940 it was beautifully traversed by metalled roads as well. From Meerut city, situated in the centre of the district, roads radiated to Muzaffarnagar, Delhi (through Ghaziabad), Bulundshahr (through Hapur), and Moradabad (through Garhmuktesar).⁹²

District board metalled roads ran also to the tehsil towns of Baghpat, Sardhana and Mawana and one connected the Grand Trunk Road at Ghaziabad through Hapur with the provincial Meerut-Moradabad Road at Garhmuktesar.⁹³ In addition to railways and metalled roads, numerous kutchas roads joined the main towns and larger markets. Though unsuitable for use by modern motor traffic, these roads could be used by passenger lorries, even during monsoons and make, therefore, fairly important.⁹⁴

In this fairly exhaustive section on prices we have concentrated on outlining the actual price movements within our region. We have observed the following basic characteristics :

- (1) a long-term secular rise in the prices of agricultural commodities, particularly wheat and sugar, over the course of our period.
- (2) over these years, prices tend to fluctuate much less when

91 Ibid., p. 5.

92 Ibid.

93 Ibid.

94 Ibid.

compared to, say, even the early nineteenth century. The fate of the harvest no longer results in violent oscillations in prices.

- (3) Lastly, we have noted a tendency for prices to equalise within the districts and between our two districts.

We have gone on to link up these phenomena to the entry of India into the nexus of world commodity exchange, the increasing volume of trade, the growth of towns and of communications both rail and road. So much for the changing character of the price movement. What were the implications of these changes for agrarian production? It is this question that we will try and answer in the course of our third chapter.

SECTION III

WAGES

We will begin our discussion on wages with a note on the data on wages which are very limited and extremely unreliable. We base our criticisms of wage data primarily on the objections put forward by S.C. Chaturvedi.⁹⁵

The first attempt to compile wage rates was taken up by the Board of Revenue for the years 1858 to 1867. More in the nature of an ad-hoc inquiry, its unreliability was openly admitted to by the

⁹⁵ S.C. Chaturvedi, Rural Wages in the United Provinces (a study of the material collected during the seventh quinquennial inquiry into rural wages conducted in December 1944). Most of the objections raised by Chaturvedi are based on Moreland's criticisms.

Secretary to the Board of Revenue himself.⁹⁶ In 1873, began the first attempt at a more regular collection of wage statistics, twice every year. Collection of wage data under this scheme continued in the United Provinces until 1908.⁹⁷ It was discontinued thence, because data so collected were considered to be as unreliable and useless as that which was collected before 1873. The grounds for the unreliability of the data were set forth systematically, for the first time by W.H. Moreland. He ascribed their inaccuracy to two main causes, one special one general : "The special cause is the tendency of tehsildars to return, not the wages paid to labourers in villages, but the wages earned by coolies in the towns where the tehsil is situated, or in the villages immediately adjoining it, where the rate of wages is influenced directly by the demand for labour in the town." The general cause was described by him as follows : "when we ask a tehsildar to report the average monthly wages of labourers during those months, we are asking him to make a calculation of such an elaborate complexity that it should be trusted only to a trained statistician, supposing one could be found who would be willing to undertake it. "He then went on to show that "average monthly wages" do not usually exist, but have to be computed from daily wages after taking into account period of employment in the month, and that the complexity of this increases as the period of employment and the rates of wages differ in the same village saying that "the best answer that any man can give is a guess, and,

96 Ibid., p. 122.

97 Ibid., pp. 122-23.

though tehsildars have to guess a good deal, they are not trained in the recondite art of statistical guessing and may go very far, astray."⁹⁸

Moreland himself suggested an alternative scheme of quinquennial wage censuses to replace the previous method. For purposes of these censuses, the general category of 'able-bodied agricultural labour' used in the previous annual censuses was replaced by (a) ploughman and brooms paid by the month and (b) ordinary labourers paid at daily rates. However, an attempt was to be made to gear up the administration for purposes of collecting and computing data on wages.⁹⁹ The first of the series of quinquennial wage censuses was conducted in 1906 followed by two more in 1911 and 1916 respectively after which even these were given up.¹⁰⁰ Even Moreland's scheme failed to establish reliable rural wage returns. In 1919, the Director of Statistics to the Government of India criticised the quinquennial wage censuses for not being up to date for not taking account of seasonal vicissitudes on wages, or not showing a sufficiently large or typical class of wage earners and not differentiating as a rule between supervisor and ordinary workman. In the last case, the limits of wages paid were often so wide that returns proved to be virtually valueless.¹⁰¹ In the same year, the Govern-

98 Ibid., p. 123.

99 Ibid., p. 124.

100 Ibid., pp. 125-26.

101 Ibid., p. 126.

ment of U.P. advanced the following reservations on the rural wage returns : "The compilation of wage statistics in rural areas presents great difficulties. Very great variations in the rates of wages are found to exist, partly because the rates are to some extent based on custom and partly because concessions are frequently given in lieu of wages. The wages paid to old men, women and children have to be eliminated. The cheap labour which can sometimes be secured by influential land-owners has to be disregarded. Some wages too are paid wholly in kind and their correct record is far from easy. In any case rural wages can only be examined by a staff well acquainted with rural conditions and fully capable of discriminating between competitive and customary rates. No employee of the district board has this qualification."¹⁰²

If the above criticisms are valid, then clearly, the quinquennial wage censuses can hardly be said to have achieved, much so far as compilation of data on wages and the accuracy of the returns are concerned - over previous censuses. Yet, in the absence of any viable alternative scheme, the quinquennial surveys were begun once again in 1928, after which three further inquiries, one in 1934, the second in 1939 and the third in 1944 were conducted along the same lines. The only major change made within the scope of rural enquiry was the additions of (1) weeder, (2) reaper. ¹⁰³
to the list of rural occupations covered by the inquiry.

102 Ibid., p. 127.

103 Ibid., p. 128.

The rest of the format of inquiry remained practically unchanged. Hence, the reservations expressed at various stages regarding the collection and collating of data on wages would hold true for all the wage censuses, right upto 1944. We must bear this in mind in addressing ourselves to a study of the trend in wages during our period. One further classification : the period of our study ends, it is true, in 1920. Given the limited nature of the data on wages for this period, we have chosen to refer fairly extensively to wage data available in Chaturvedi's report, for the period, 1920-1944. This we felt, might help give greater weight to our arguments for the pre-1920 years, based as these are, on flimsy evidence.

In 1892, the settlement officer for Muzeffarnagar remarked on the "great complaints ... made by agriculturists ... of the rise in labourer's wages... there can be little doubt," he says, "that wages have begun to rise."¹⁰⁴ In the gazetteer for district Meerut, we are told that "although the price of foodgrains has increased very largely, there has been a practically proportionate rise in the wages of the lower classes; so that with dearer commodities, but cheaper money, their condition cannot be said to have materially deteriorated, although possibly there has been no great visible improvement."¹⁰⁵ According to the figures in the Gazetteer for Meerut district, the wages of "ordinary labourers which includes agricultural labourers,

104 Settlement Report, Muzeffarnagar, 1892, p. 45.

105 Meerut : A Gazetteer, pp.

unskilled labourers and artisans rose from one, to an anna and a half per diem in 1815, to 2 annas in 1850; to 2½ annas in 1870 and finally to 3 annas or slightly less in 1903.¹⁰⁶ In Muzaffarnagar wages of farm labour rose from Rs. 1-14-0 a month in 1858 to Rs. 6-7 a month in 1901.¹⁰⁷ Data on wages between 1873 and 1901, from the prices and wages series, indicates at best a slight rise, at worst a stability in wage trends for Meerut and Muzaffarnagar, over this period. (Table 1.8 and 1.9). Meerut seems to have witnessed a definite rise from an average of Rs. 5 a month for 1873-1880 to an average of Rs. 5.1 to 5.9 for 1891-95. The average for 1896 to 1900 however, fell to Rs. 4.43. In 1901 wages rose again to Rs. 4.5 per month.¹⁰⁸ As for Muzaffarnagar, the average of the five years from 1881-1885 - Rs. 4.1 show a decline from the Rs. 5.2 average of the years, 1873-1880. After 1885, however there is a very slow rise to Rs. 4.5 per month in 1901.¹⁰⁹

The unreliability of the data on wages would be obvious from the massive discrepancy in monthly wage rates for Muzaffarnagar in 1901. While the district gazetteer computes this at Rs. 6-7, the prices and wage series place it at Rs. 4.5. Given this discrepancy and the general unreliability of data on wages, there is no point really, in indexing wages against prices and calculating their relative rise or decline. Even to speak of a trend on the basis

106 Ibid.

107 Muzaffarnagar : A Gazetteer, pp.

108 See Table 1.9.

109 Ibid.

TABLE 1.8

Average Monthly Wage (in Rs.)
District Average Monthly Wage (in Rs.)

YEAR	<u>Meerut</u> Able-bodied agri.-lab.	<u>Muzaffarnagar</u> Able-bodied agri.-lab.	YEAR	<u>Meerut</u> Able-bodied agri.-lab.	<u>Muzaff.,nr.</u> Able-bodied agri.-lab.
1873	4.5	4	1887	5.5	4
1874	5	5	1888	5.5	4
1875	5	5	1889	5.5	4
1876	5	5	1890	5.5	4
1877	5	5	1891	5.5	4
1878	5	5	1892	5 to 6	4
1879	5	4	1893	5 to 6	5
1880	5	4	1894	5 to 6	5
1881	4.5	4	1895	5 to 6	5
1882	5 to 6	4	1896	4.33	4 to 4.5
1883	5 to 6	4	1897	4.5	4 to 4.5
1884	5 to 6	-	1898	4.5	4 to 4.5
1885	4 to 5	4.5	1899	4.33	4 to 4.5
1886	5.5	4	1900	4.5	4 to 4.5
			1901	4.5	4 to 4.5

TABLE 1.9

Rates of Wages in Canal Areas as taken in the Quinquennial wage censuses held in 1911 and 1916

Year	Unskilled or agricultural labours (per diem)			Unskilled or agricultural labours (per diem)		
1911	0	2	3	0	2	6
		to			to	
	0	4	0	0	4	0
1916	0	3	0	0	3	0
		to			to	
	0	4	3	0	4	6

of these figures would be suspect, at least for Muzaffarnagar. In Meerut, the rise in wages seems much more certain. Perhaps evidence, both qualitative and quantitative for both district during the course of the twentieth century could help clarify our understanding of long-term wage trends. It may be possible in that context to determine whether or not the tendency towards the upward movement in wages around the end of the nineteenth century was part of a long term upward movement in wages.

Wages on the whole, ruled high throughout the decade, 1901-11.¹¹⁰ The only point at which there was a downward tendency in wages during this decade was in 1904-06.¹¹¹ It would appear that as a general rule, during this decade, wages tended to more than keep pace with prices. The census officer, for instance, write thus : "high wages and low prices ... doubtless helped the poorer classes in their struggle against famine, giving them greater capacity both to fight it ... the prevalence of low prices for the first half of the decade enabled the labourers to put money by and enjoy an occasional holiday. It has also enabled the thrifty labourers to take up single fields"¹¹² The figures given in the quinquennial census of 1911, confirm this opinion.¹¹³ In Meerut the wages of agricultural labourers range from Re. 0-2-3- to Re. 0-4-0; in Muzaffarnagar, from Re. 0-2-6 to Re. 0-4-0. Even the lower figure

110 Census of India, United Provinces, 1911, p. 41.

111 Ibid.

112 Ibid.

113 See Table 1.9.

when converted into monthly wages comes to Rs. 6-9-0 for Meerut and Rs. 7-8-0 for Muzaffarnagar. These represent, in both cases, a definite advance over the monthly wage figures of previous censuses, quoted in the price-wage series.

The next marked rise in wages seems to have begun in 1913-14;¹¹⁴ even more marked, however, appears to have been the rise beginning towards the end of the First World War. In 1919-20, the census officer tells us, "wages rose abruptly."¹¹⁵ This "general rise in wages," he goes on, "which started towards the end of the European war ... continued ... as far as 1928."¹¹⁶ The wage rise, the census officer suggests, seems to have been more marked in the case of skilled as against unskilled labour.¹¹⁷ Taking the province as a whole, the rise in wages between the years 1916-28, are calculated thus by the census officer in 1931 : 50 per cent for unskilled labourers; and 60 per cent for ploughmen in regular service.¹¹⁸ We need not concern ourselves with the wage rises of other categories of workmen as they do not really figure in the main body of our analysis. That once again, the rise in wages more than kept pace with the price rise would be evident from the data given below on the price rise during the same years, and culled from the same source,

114 Census of India, United Provinces, 1921, p. 12.

115 Ibid.

116 Ibid., p. 39.

117 Ibid.

118 Ibid.

the census report of 1931 :

TABLE 1.10

Percent Increase in Prices, Major Agricultural Commodities,
1916-28¹¹⁹

Grain	% increase in price 1916-28
Wheat	35
Barley	33
Gram	53
Jwar	48
Rice	33

When we compare these figures with the percentage increase in wages given above, the point we are making would be clear.

Is there any more data that we could use to confirm the wage trends noted above, for the years, 1916-28? Let us take up first the figures of the quinquennial wage census of the year, 1916. These figures, in the case of both Meerut and Muzaffarnagar represent a clear increase over the figures cited in the census of 1911. Wages of agricultural labourers, now range from Re. 0-3-0 to Re. 0-4-3 in Meerut and Re. 0-3-0 to Re. 0-4-6 in Muzaffarnagar. The lower figure converted into a monthly average now amounts to Rs. 9-0-0 in both districts.¹²⁰

119 Ibid.

120 See Table 1.

In addition to the above data, more data on wages are provided us by S.C. Chaturvedi. Here the data extends beyond 1928, into 1944. Chaturvedi has constructed a wage series on the basis of the quinquennial wage censuses of the years, 1916, 1928, 1934, 1939 and 1944. We take up the series as it exists for the north-western region of the United Provinces as a whole. Taking the year 1911 as base, the following figures show the trend in the wages of unskilled labour in the north-west region as a whole.

TABLE 1.11

Movement of Wages, Unskilled Labour, 1916-44, North-west, United Provinces¹²¹

Region	1916	1928	1934	1939	1944
North-west	120	182	118	138	571

A similar series has also been constructed for prices, for the same period and with the same year as base for the new region as a whole. It may, however, be used as an indicator for the relative rise in prices and wages in our districts.

Movement of Prices¹²²

North-west	129	164	91	128	451
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It would be very clear from the above figures that not only do wages rise throughout this period but even the tendency we noted earlier for wages to keep up with prices, if not, in fact to out-

121 Chaturvedi, op.cit. Appendices, Table 75, pp. 512-13.

122 Ibid., p. 100.

strip them, continued right through, into 1944. This is in fact especially commented upon by S.C. Chaturvedi when he is dealing with the interaction between prices and wages between 1939 and 1944. Chaturvedi supplies us with the following more figures showing the percentage rise in December 1944 over August 1939 in wages in different occupations in the north-west region :

TABLE 1.12

Percentage Increase in Wages of Different Occupations¹²³
North-west Region, 1939-44

	Means	Medians	Modes
1. Unskilled labour	312	313	337
2. Reaping	-	300	-
3. Weeding	-	269	-
4. Ploughing (daily wage)	-	287	-
5. Ploughing (monthly wage)	-	200	-

After this, Chaturvedi goes on to show the distribution of districts in the north-west region according to percentage rise in the prices in December 1944 over those in August 1939 in the following manner : (See Table 1.13).

¹²³ Ibid., Table 31, p. 93.

TABLE 1.13

Percentage Rise in Prices in Different Districts of the
North-west Region, 1939-44¹²⁴

<u>Over August 1939</u>	<u>North-Western Region</u>
100-125	1
125-150	1
150-175	3
175-200	3
200-225	2
225-250	1
250-275	-
275-300	-
	TOTAL
	11
Average (mean) increase	174

Concluding from this, on the percentage lag or excess recorded by wages in relation to prices Chaturvedi writes thus : "Considering regionally, the North-west region records more cases of excess the interaction of prices and wages during the Second World War has left rural workers in the north-west region generally a little more prosperous than before"¹²⁵ He carries on in the same vein, in a different place :

".... the rise in wages during the last World War has, if anything, increased the disparity in wages in high and low-wage regions."¹²⁶

124 Ibide., Table 32, p. 94.

125 Ibide., p. 98.

126 Ibide., pp. 93-4.

It would be apparent from the above that there was hardly a gap between prices and wages throughout our period. This difficulty to the cultivator was further compounded by the growing militancy of labour, and their opposition to doing unpaid work or to too oppressive supervision. Speaking of this, a revenue officer records as early as 1862-63 for Muzaffarnagar : "They have acquired an independence which they are not slow to assert and they are no longer the 'ascripti glebae' who passed with the land and were bound to perform the services which the owner required of them." He gives the example of an incident when labourers, including women and children came to him to make verbal complaint against their landlords' against who required them to cut crops when they were elsewhere engaged.¹²⁷ For the same year, revenue officer records in Meerut, the breakdown of labour services hitherto exacted via caste and jajmani systems.¹²⁸ Referring to the growing assertiveness of Chamars he says, "in many places they utterly refuse to do 'begar', and in the villages along the north west of the district refuse to do their old duties for the zamindars, connected with sugar-pressing etc., the old 'heka' are not sufficient; they demand a full wage for a days work, and the zamindars are at their wits' end to get the cane pressed and the juice boiled in time."¹²⁹

The revenue officer in the latter case traces the growing militancy to the influence of missionary work. However, this sub-

127 Revenue Administration Report, NWP & Oudh, 1862-63.

128 Ibid.

129 Ibid.

jective expression of militancy was not unrelated to a certain objective movement towards shortage of free labour. To a large extent perhaps, the demographic crises of our period may have been responsible for the shortage of labour and hence the high wages. When this is seen in the context of rising agricultural prices and that the extension of the area demanded greater use of hired labour the competition for labour among producers can well be understood. No wonder wages did not lag behind prices - they in fact, tended to out to prices. This tended perhaps, in turn to aggravate the labour shortage, for it is likely to have encouraged a shift from partial wage employment to more intense self-cultivation. Thus, as labour hours were withdrawn from the market, the prices of labour went up. Evidence to this effect, we have already quoted. The implications of this shift were obvious : "... though for a time, at all events, he depends chiefly on the earnings of his labour, still he gives only a part of his time to the service of other cultivators as he wants the rest for his own lands; whilst if he has any luck, he will extend his holding and begin to employ labour for himself. The smaller cultivator of low caste who work his land with the labour of his family and by the occasional help of other cultivators of the same kind is not affected by high wages ; but the high caste cultivators who will not as a rule, touch a plough themselves, have begun to make their families work; and the richer landholders who cultivate any considerable portion of their lands themselves, also feed the change acutely and show it by their growing interest in all sorts of labour saving machinery."¹³⁰ The 1921 census notes a

130 Census of India, United Provinces, 1911, p. 41.

decline in the numbers recorded as agricultural labourers and agricultural rentiers and an expansion of the category of ordinary cultivators. It explains this movement in terms of labourers and rentiers within agriculture utilising the favourable conjuncture to shift to self-cultivation.

We have so far discussed mainly the major long term trend in the movement of wages in our region over the period, 1870-1940, i.e., its upward movement over this entire period we may now turn our attention to get another tendency within the wage movement, the substitution, to an increasing extent of wage in kind, by wages in cash. The data for this argument relates primarily to the period 1934 to 1944, but it will give us an indication of the extent to which this process had progressed as well as the intensity with which it continued to occur.

In the north-west region as a whole, the percentage of villages paying cash wages to unskilled labour to those paying in kind was as follows for the years 1934, 1939 and 1944 :

	<u>1934</u>	<u>1939</u>	<u>1944</u> ¹³¹
North-west region	25.9	19.4	7.5

for Muzaffarnagar and Meerut, the comparative number of villages reporting cash and kind wages for unskilled labour were as follows : (See Table 1.14). It would be clear from this that wages in kind was yielding place to wages in cash in the entire north-west region as well as more specifically in our two districts. Also, that the progress towards cash economy was substantially accelerated during

131 Chaturvedi, op.cit., Table 5, p. 33.

TABLE 1.14

Number of Villages Paying Wages in Cash and Kind¹³²

	<u>1934</u>		<u>1939</u>		<u>1944</u>	
	Cash	Kind	Cash	Kind	Cash	Kind
Meerut	157	31	166	28	167	11
Muzaffarnagar	81	42	83	49	97	8

the quinquennium, 1939-1944.

A break-up also exists, showing villages reporting cash or kind, or both types of wages for different occupations for the north-western region :

TABLE 1.15

Villages Reporting Entries¹³³

	Total No.	Cash and Kind %	Cash Alone %	Kind Alone %
1. Unskilled Labour	1,371	6	93	1
2. Weeding	1,081	-	95	5
3. Reaping	647	-	40	60
4. Ploughing (daily wages)	686	1	98	1
5. Ploughing (monthly wages)	1,103	1	97	2

This table, drawn up in 1944, shows the almost complete dominance of payments in cash to rural labour. The only occupation in

¹³² Ibide., Appendices, Table 19, p. 258.

¹³³ Ibide., Table 4, p. 32.

which kind wages still form a major share of total wage entries, is reaping.

In chapter one we have summed up certain trends in population, prices and wages. The major problem regarding the implication of these trends for agricultural production remains to be tackled. Before we proceed to analyse that - chapter three - we address ourselves to the question of revenue, rent and credit in the next chapter. This, like chapter one, would help us establish, more correctly, the conditions within which production was being organised.

CHAPTER II

LAND REVENUE , RENTS AND CREDIT

SECTION A

REVENUE AND RENTS

Nominally, land revenue increased secularly from the beginning of the nineteenth century. Simon Commander has argued that this rise was countered by an extension in acreage, so that incidence per cultivated area might have actually declined, and in any case kept the revenue incidence far behind increases in prices. This lag became much wider in the second phase of the price-rise after 1885 :

TABLE 2.1

Index of Land Revenue Demand and Prices¹
(1885=100)

District	1885	1895	1906-07	1916-17
Meerut	100	100	132	134
Muzaffarnagar	100	124	129	128
Average	100	117.33	130.33	132
Price (for revenue year)	100	135	164	221
Price (3 yearly average around revenue year)	100	130	157	217

¹ Land Revenue Administration Report, NWP and Oudh for relevant years.

A gap between the nominal movement and its real incidence is visible in the case of rent as well. To begin with, we will use a calculated 'average' rent* instead of separate occupancy and non-occupancy rates, as directly available from the Revenue Administration Reports, because there is a very large overlap between the tenorial categories, which is repeatedly noted in every Revenue Settlement Report. In Muzaffarnagar, enquiries into actual rents were made by Mr Cadell in 1868 and in subsequent years. Compared to rents at that time, Mr Miller calculated, that by 1892, "in the eastern tracts, the increase in rents may safely be put at from 33 to 40 per cent, in Shikarpur and Budhana, it can hardly be placed below 50 per cent; while in Kandhla and Shamli, I should not estimate it above 20 or 30 per cent. "The progress of rents," concludes the Settlement Officer, "has been to a great extent, a levelling up of the comparatively low rates paid in the eastern parts to the high rates paid in the south-west."² The tendency for rents to rise continued through the nineteenth century, into the twentieth.

* Average Rent $R = \frac{\text{Total Rent}}{\text{Total Tenancy Area}} = \frac{r_o a_o + r_w a_w}{a_w + a_o}$

Where r_o = occupancy rent rate;
 r_w = rate of tenancy - at-will;
 a_o = occupancy paying area;
 a_w = area under tenancy-at-will.

2 Settlement Report of the Muzaffarnagar District, 1892, p. 48.

Indexed at 100 between 1892-96, the trend in the movement of rents is as follows :

	<u>1892-96</u>	<u>97-1901</u>	<u>02-06</u>	<u>07-11</u>	<u>12-16</u>	<u>19-20³</u>
Muzaffarnagar	100	105.78	113.90	120.94	129.78	145.85

Fairly adequate reasons were suggested by Mr Miller, in 1892 for the rise in rents in Muzaffarnagar. "Competition for land" he wrote, "has been greatly stimulated by the certainty which irrigation gives of a fair crop, and the certainty which improvements in communications have brought of a fair price. The cultivator has no longer to fear that in good seasons prices will sink very low; and this high standard is maintained over the whole district. Even in the most remote parts of Gorhanpur prices do not vary from these obtainable at Muzaffarnagar by more than a few anna a maund. The great increase of population in the period from 1872 to 1881 must have done much to encourage competition, which has also ... been made much keener by the substitution of agriculture for industrial pursuits. Weavers, smiths, carpenters, barbers and the like, find agriculture more paying than the practice of their hereditary callings, and go to swell the ranks of the tenantry; pandits, fakirs, bairagis find in it a more certain income and even the chamar asserts his independence and prefers a field of his own to labouring for others. The landlords too are ready to take any land into their own hands for which an adequate rent cannot be obtained. It can

3 Land Revenue-Administration Report, NWP and Oudh, for relevant years.

scarcely be doubted that in the flourishing part of the district the keenness of this competition will be maintained and that further development of rents will take place."⁴ In order to bring out more sharply, the causes at work in raising rents, Mr Miller contrasts the areas in which rents, rose with those in which rents stagnated. The latter were specifically, the north west portions of the district. Here, "the rent rates found by Mr Cadell (1860's) are as high as are now taken In a few cases rents run sufficiently high to show that the land is not in itself less valuable than elsewhere, but over the greater part of the tract, competition is inactive and the landlords cannot take advantage of the rise of prices, though it has affected these parts equally with others. Rents are still regulated as much by custom as by competition; and until a large portion of the waste comes under the plough it cannot be expected that competition will begin to act freely. The unpopularity of these parts I attribute to their unhealthiness, to their inaccessibility and to the uncertainty of cultivation which is in many parts liable to injury from floods."⁵ These causes for the rise in rents hold good probably for the years following the 1890's, as well.

What happens if we compare this rise in rents with the rise in prices? (See Table 2.2).

4 Settlement Report of the Muzaffernagar District, 1892, p. 48.

5 Ibid., p. 49.

TABLE 2.2

Index of Movement of Prices⁶
(1892-96 = 100)

	<u>1892-96</u>	<u>1897-1901</u>	<u>1902-06</u>	<u>1907-11</u>	<u>1912-16</u>	<u>1919-20</u>
Prices	100	118.21	100.19	139.12	150.81	162.45

Over this period, at least, the rise in prices can be seen to have been much greater than the rise in rents.

Data for Meerut points to similar conclusions. Comparing the movement in competition rents with the movement in prices, the Settlement Officer in 1940, shows not only how little relation there is, between prices and the rents of old occupancy, but also the fact that even competition rents lag behind prices, both when they rise, and when they fall. Whereas the rise in prices of the boom period (1916-29) over that of the settlement of the 1890's, was 131 per cent, competition rents had increased by only 97 per cent. As regards the rental incidence on occupancy tenants, this was 39 per cent below the non-occupancy incidence of the 1890's settlement.⁷

Far more interestingly, rent as a proportion of gross value of output, also shows a decline over this period. Earlier, somewhat scattered evidence from Settlement Reports indicates, that this proportion of rent to GVD, was roughly 40 per cent in the 1860's and 70's.⁸ For a later period, the Settlement Officer puts down

6 Prices and Wages, for relevant years.

7 Final Settlement Report of the Meerut District, 1940, p. 21.

8 Ibid., p. 33.

20 per cent of GVO as a fair rent from the 1890's onwards.⁹ Compared to these figures, the results for the years between 1892-1920 show a 50 per cent fall, relative to the proportions taken away in the 1870's as rent, and even below the 20 per cent estimated as a fair rent :

Rent as Percentage of GVO (per acre)¹⁰

District Muzaffarnagar

1864-5 (Wheat, (all- jowar & barley)	1866 crop)	1876 a.Wheat and all crop	1892-6 (Wheat)	1899- 1901 (Wheat)	1902-6 (Wheat)	07-11 (Wheat)	12-16 (Wheat)	17-20 (Wheat)
50%	25-40%	40%	17.33%	14.68%	18.43%	14.68%	14.95%	10.73%
		b.Wheat 33%						

An objection that we anticipate is that the figures could be weighted in favour of our conclusion (i.e. emphasising a fall in rent) because we have used, what are wholesale prices from the Price-Wage series. An attempt was made to deflate them using 'harvest prices'

9 Ibid.,

10 Figures for 1864-65, from S.N. Martin's estimate - from patwari and tehsilders' returns for that year in Settlement Report.

Figures for 1866 from Settlement Report of the Muzaffarnagar District, p. 4.

Figure for 1876 estimate (a) from Settlement Report, Ibid.; (b) by large landowner Seiyid Museain Khan, Settlement Report, p. 574.

Figures for 1892-1900 from Land Revenue Administration Report, NWP and Oudh for relevant years. Calculated by long equation: Average rent per acre

Average yield per acre x price per maund.

available from the ASI for the last two years. But the two sets of prices were just not comparable, the harvest price being in one year, higher than the wholesale price culled from the prices and wage series. Even, were a reliable harvest price available, the actual price given to the cultivator would have varied tremendously depending on the degree of his involvement with merchant moneylending as a source of credit. Nevertheless, the settlement report for Muzaffarnagar in 1921 indicates, that our figures for the last years, are, if anything overestimates. A sample survey carried out by the settlement officer puts 4.5 per cent and 9 per cent of GVO, as rent for occupancy and non-occupancy tenants,¹¹ respectively against our own estimate of 10.73 per cent for that year.

In the absence of reliable rent figures for Meerut, between 1864-65 and 1902, we have excluded Meerut from the above table showing rent as a percentage of GVO. One estimates for the years 1902-20 would indicate, however, that the trend in the case of Meerut would have been similar to that in Muzaffarnagar. The following are the estimates :

<u>Rent as Percentage of GVO (in percent)</u>				
	1902-06	1907-11	1912-16	1917-20
	(Wheat)	(Wheat)	(Wheat)	(Wheat)
Meerut	21.80	17.80	18.55	15.70

It would not be completely unprofitable to consider now the difference in the incidence of rents paid by different categories

11 Final Settlement Report of the Muzaffarnagar District, 1921, p. 9.

of tenants - occupancy tenants and tenants-at-will. For, although tenurial categories did overlap, we cannot completely rule out the existence those who were only occupancy tenants and others who were simply tenants at will. In such cases, an average rent would tend to camouflage the variation of the rate of rent with respect to different categories of tenants.

For Muzaffarnagar district, Mr Miller tells us in 1892 that "in Budhana many of the occupancy rents were paid at extremely low rents in Muzaffarnagar (Pargana), the rates are very much below the standard of competition rents..."¹² The settlement officer goes on to tell us that "the inspection of the Jansath tehsil had not proceeded far when the difference between the rents of occupancy tenants and tenants-at-will was noticed. On enquiry it appeared that the great bulk of the former class held their rights from a date before Mr Cadell's settlement and that they paid rents at rates fixed by that officer ... A few tenants who had held for over 12 years and were first recorded as occupancy tenants in the present settlement paid higher rates; but very careful enquiry and calculation established beyond all shadow of doubt the conclusion that the prevalent rates of occupancy tenants in this tehsil at the commencement of the present settlement were the assumed rates of the settlement made ready 20 years before"¹³ In certain areas of district Muzaffarnagar - in Bagra and Charthawal and in the Budhana and Kairama tehsile - a number of tenants paid at rates

12 Settlement Report of the Muzaffarnagar District, 1892, p. 58.

13 Ibid., p. 60.

fixed about 1861, a few held at rates paid in 1840.¹⁴

Even where canal irrigation had been introduced, rents often remained unchanged. In fact, at times, the Settlement Officer informs us, in areas in which canal irrigation was introduced, the courts sometimes fixed rates lower than those applied to irrigated land at the old settlement.¹⁵ And this, despite the charge made by the Government on the landlord as a share in the enhancement of rent that was supposed to follow upon the introduction of canal irrigation. Ordinarily, if an occupancy tenants rent is not enhanced, the landlord arranged with him that he would bear all the costs of canal irrigation including the owners' rate, but sometimes the tenant refused to pay this. The landlord was in this case, clearly entitled to have the rent enhanced, but even in such circumstances enhancement had been refused. "Judged by the all round rate per acre", the settlement officer concludes, "occupancy rents are 28 per cent below the standard of competition rents in Jansath, 25 per cent less in Kairana, 32 per cent less in Budhawa, and 30 per cent less in Muzaffarnagar. Nor do these percentages show accurately the extent of the difference. Occupancy tenants have, on the whole, better lands than tenants at will, and a comparison that should take advantages of soil into consideration would probably show a still greater divergence."¹⁶

14 Ibid., p. 61.

15 Ibid.

16 Ibid., pp. 61-2.

We have seen already, that rents in Muzaffernagar, went up between the time of Cadell's enquiries (1860) and Miller's settlement (1892). If the rents of occupancy tenants did not go up in any substantial measure, it follows logically that it was competition rents that were primarily affected. Those related mainly to expropriatory tenants and tenants at will.

The incidence of rent per acre on lands held by occupancy tenants and tenants-at-will, in 1920, shows that the differential impact of the rent rise on different sections of the tenants continued to make itself felt well into the twentieth century :

TABLE 2.3

Incidence of Rents on Occupancy and Non-Occupancy Tenants
1920¹⁷

Tenure	Area	Incidence of rent per acre
Old Occupancy	180,993	4.66
Occupancy over 20 years	32,850	6.66
Occupancy over 12 years	16,392	8.40
Non-occupancy	183,644	11.49

"The old occupancy ... rents have remained almost unchanged since last settlement," writes the settlement officer in 1920. "The occupancy tenants" be continues, "have become habituated to the old scale of rents ... An excessive enhancement of the old occupancy rents would upset the accustomed life of the tenantry and involve

17 Final Settlement Report of the Muzaffernagar District, 1921, p. 17.

an agrarian upheaval. An enhancement of about 35 per cent, on the old occupancy rents is the maximum, which it is desirable or politic to allow. Applying this maximum standard of enhancement, the resulting level is generally found to be a little below that of the competition rents of 20 years ago and about half those of the present day ... Occupancy rights have come to be regarded as conferring not only fixity of tenure but also rental privilege."¹⁸

Occupancy rents lagged behind the rents of non-occupancy tenants in Meerut as well : The settlement officer for Meerut in 1940 provides us the following table :

TABLE 2.4
Rental Incidence on Occupancy and non-occupancy tenants,
Meerut District, 1940¹⁹

Tenure	Area acres	Rent Rs.	Incidence Rs.
Old occupancy unenhanced	66,176	325,915	4.9
" enhanced	156,472	1,009,420	6.5
Occupancy over 20 years	42,961	343,188	8.0
" under 20 years	17,197	182,735	10.6
Total occupancy present settle- ment	282,806	1,861,258	6.6
" " former	250,415	1,181,113	4.7
Total statutory present	227,125	3,354,612	14.8
" " former	272,951	2,092,585	7.7

¹⁸ Ibid.

¹⁹ Final Settlement Report of Meerut District, 1940, p. 20.

"At last settlement", we are told, "the all round incidence of the occupancy rental was only Rs. 4.7 per acre which was an advance of 35 per cent on that of the previous settlement. The all round incidence now has risen by 40 per cent to Rs. 6.6 per acre but the old occupancy tenants ... pay only Rs. 4.9 unenhanced and Rs. 6.5 enhanced, against Rs. 7.7 paid by non-occupancy at last settlement, and Rs. 14.8 by statutory, now. (With the old occupancy rents so inadequate and sluggish," concludes the settlement officer, "it is not surprising, that new rents, agreed upon since last settlement and statutory rents in particular, show such a marked rise."²⁰)

It is important that we put in a caveat here. On the basis of the rates of rent cited above, it is possible for us to start thinking that the non-occupancy tenants were subject to fairly vicious rack-renting. This was, no doubt, true, and perhaps for a large section within the non-occupancy tenants. In some cases, however, it is possible to see the high rates of competition rents as reflecting simply the superior productivity of the holding. "The non-occupancy tenant, though not so comfortable is very far from penurious. An all round non-occupancy rental incidence of Rs. 11-8 per acre for the whole district would, at first sight appear to indicate the prevalence of rack-rents. But in their accepted sense, which connotes the reduction of the tenant to a state of subservient misery, rack-rents are unknown ... Further it is not a case of absentee landlords squeezing a tenants with

whom they have nothing in common. The small Jat proprietor takes as high rents as any other caste from the Jats living in his village as members of his own brotherhood. Solidarity of caste feeling is most pronounced among the Jats than any other community, and general rack-renting within the caste would not be countenanced. The truth is, the Jat knows what the land can be made to produce in skilful hands, and adjusts the rents accordingly. It is the high standard of agriculture, the fertility of the soil and the extent of irrigation that drive up rents, and not the harshness of the proprietors."²¹

The Settlement Officer in the above statement, negates completely, the prevalence of rack-renting. That, we have already warned could hardly have been true. It is possible however, to argue that non-occupancy tenures constituted the more economically rational sector of the economy, from which a structure of rent was evolving, that was different from rack-rents. The levels of rent, in the latter cases were determined politically, by the balance of class forces, to a large extent autonomous of the level of production. As a contrast to this, competitive rents, were, in this region, directly determined by the level of productivity. With the establishment of the primacy of production in its determination, the basis was set for the eventual formation of rent as a residual category.

21 Final Settlement Report of Muzeffernagar District, 1921, p. 8.

The decline of rents in kind over our period, is indicative of the same tendency.

"It is unfortunate, we are told by the Settlement Officer in 1892 for Muzaffernagar, "that no figures are available to show to what extent cash rents have displaced grain rents since last settlement, but there is no doubt that the rise in prices and the protection against failure of the crops provided by irrigation have greatly increased the popularity of cash rents with tenants and have diminished the grain-rented area ... In all the tehsils the tenants who have acquired occupancy rights after last settlement have applied in large numbers for commutation of their rents, and at the close of the settlement there must have been very little grain rented land left in the holdings of occupancy tenants."²²

TABLE 2.5

Percentage of Lands Paying Rents in Cash and Kind²³

	Cash Acres	Kind Acres	% of rents
Jansath	131,111	26,741	16
Budhane	63,888	14,569	18
Muzaffarnagar (upland)	100,549	31,698	24
Kairana	71,467	21,446	23
Total	367,010	94,454	

²² Settlement Report of Muzaffarnagar District, 1892, p. 64.

²³ Ibid.

The areas of land paying rent in kind, as can be seen, varies from 16 to 24 per cent of the total holdings area of the tenants; but in the first two tehsils in the above list it does not include land let out at crop rates owned in the last two it does if crop rents be included amongst kind rents, "the land so rented may be safely estimated all over the district to amount to one-fifth or more, of the total area held by tenants."²⁴

✓ In 1920, the Settlement Officer comments on the "disappearance of grain rents,"²⁵ suggesting that the tendency for rents in kind to be replaced by cash rents continued into the twentieth century. "Now only 6.6 per cent of the non-occupancy land is let on rent paid in kind, as compared with 28.9 per cent at the last settlement; this is a long slide forward, towards better conditions for the tenant-at-will."²⁶)

In the absence of like evidence for rents in the case of Meerut, it is difficult to say concretely what was happening in that district; there is, however, no reason to believe that things there would have been drastically different from what they were in Muzaffarnagar. The major point we have been trying to make should by now be clear : the incidence of rent and revenue declined over the entire period discussed, leaving open possibilities of accumulation for the cultivator, either peasant proprietor or

24 Ibid.

25 Final Settlement Report of Muzaffarnagar District, 1921, p. 8.

26 Ibid., p. 9.

tenant. No doubt, within the tenantry, occupancy tenants fared better than tenants-at-will; but even in the case of the latter, evidence points' to the emergence of a structure of rents based not only on rack-renting through extra economic coercion, but also on competition based on productivity.

SECTION B

CREDIT AND MARKETING

Three major points need to be stressed in so far as the problem of credit in our area is concerned. Firstly, almost the entire evidence from the Settlement Reports and the Provincial Banking Enquiry Committee report points to a very definite expansion in the total volume of credit between the late nineteenth century and upto the end of our period. The other two points relate to the implications of this credit expansion for production and social relations in the countryside. Attention has more often than not been focussed on one outstanding result of rural credit expansion, and that is the process of the increasing pauperization of a predominantly small holding peasantry under the burden of exorbitantly high interest rates charged by village mahajans and sahukars, the petty 'beoparis' sucking vampire like, the life blood of an increasingly dependent peasantry, hurtling it down the path of proletarianisation. The malignant sahukar turning zamindars has pushed into the shadows another process, evolving

simultaneously, and that is the consolidation of a section of the peasantry through loans taken for purposes of production despite the high rates of interest charged and precisely because of their ability to offer land as security. Both these processes we feel, need to be considered in any discussion on credit and the expansion of credit.

The one major source of credit in the rural areas throughout the period under discussion, remained the village mahajan and sahukar. That was something that was recognised in almost every report that formed the basis of the Provincial Banking Enquiry Committee. "The village moneylender still holds his sway over the village,"²⁷ writes Kunwar Bahadur, of village Bhatiyana, district Meerut. A similar observation is made with regard to village Khiwai in district Meerut also by Kunwar Bahadur. "... the only credit agency ... for the peasants is that of the moneylender, better known as the Sahukar."²⁸ The moneylenders were either resident in the same village or belonged to other villages. The mahajans for village Bhatiyana for instance came not only from that village, but most of them came, in fact from Hapur and Phagonta, a village in tehsil Ghaziabad.²⁹ Similarly, the agriculturists of village Pasounda borrowed not only from resident

27 Report of an Economic Enquiry in Village Bhatiyana, district Meerut, in the Report of the Provincial Banking Enquiry Committee, United Provinces, Vol. II, p.

28 Report of an Economic Enquiry in Village Khiwai District Meerut, in the Report of the Provincial Banking Enquiry Committee, United Provinces, Vol. II, p. 230.

29 Report on Village Bhatiyana, PBEC, UP., p. 214.

moneylenders but also from moneylenders of neighbouring villages in Sahadara and Farrikhnagar.³⁰

Money was lent to agriculturists against various forms of security. In some cases land was offered as security, in other ornaments; in yet others money was borrowed on the security of standing crops. Those who failed to tender tangible security executed a promissory note to the extent of the debt required, while others relied upon the entries made in bahi-khata (daily account books) of the mahajans. This was mainly so in the case of money lent in small amounts for 'hath udhar' or casual loans, either for long or short period.

As a general rule, the largest number of loans seem to have been advanced, in almost every village in the two districts against the security of land. For village Bhatiyana, Kunwar Bahadur writes, ".... heavy loans are obtained on the security of land."³¹ For village Bharsa, a similar observation is made : "Enquiry shows, writes Bahadur, "that the amount of indebtedness is proportionate to the potential credit power and the nature of the security offered the better the title to land, the greater the indebtedness."³² In village Pasounda, district Meerut, "most debts have been obtained on the security of land ... The peasant

30 Report of an Economic Enquiry in Village Pasounda, district Meerut, in PBEC, UP, Vol. II, p. 234.

31 Report on Village Bhatiyana, PBEC, UP, p. 217.

32 Report of an Economic Enquiry in Village Bharsa, district Meerut, in PBEC, UP, Vol. II, p. 224.

proprietor is more seriously involved than the occupancy tenant and the tenant-at-will Possessing better security than a tenant in his proprietary title, he commands larger credit of which he takes full advantage."³³

The following figures from the various villeges discussed above, would help confirm what has been said above for village Bhatiyana (Meerut district) :

	Z (Rs.)	Teh. (Rs.) ³⁴
(1) Debt secured on the mortgage of land	21,820	-
(2) Debt on registered deeds	9,000	-
(3) Debt account to <u>bahi-khata</u>	2,000	1,200
(4) Debt on promissory notes	6,000	4,000
(5) Debt on the security of ornaments	9,000	3,000

Given the larger amount of debt granted against land mortgages, it was hardly surprising that indebtedness per peasant proprietor would be the highest as compared to occupancy tenant and tenant-at-will :

	(Rs.) ³⁵
Indebtedness per peasant proprietor	135
Indebtedness per tenant	105
Indebtedness per family	140

For the United Provinces as a whole, figures indicate a similar distribution :

	(Rs.) ³⁶
Indebtedness per cultivating proprietor	1,000
Indebtedness per occupancy tenant	177
Indebtedness per tenant-at-will	128

33 Report on Village Pasomda, PBEC, UP, p. 236.

34 Report on Village Bhatiyana, PBEC, UP, p. 218.

35 Ibid.

In village Khiwai (Meerut district):

	<u>7</u> (Rs.)	<u>Cultivator</u> ³⁷ (Rs.)
Debt secured on registered mortgages of land	44,000	-
Debt secured on usufruct mortgages of land	10,000	-
Debt as entered in <u>behi-khatas</u>	20,000	11,000
Debt secured on raghas (promi. notes)	2,000	5,000
Debt secure on pawning of ornaments	500	1,500
<u>Hath udhar</u>	200	800

The indebtedness per peasant proprietor came to Rs. 147, while the average indebtedness per tenant was about Rs. 66.³⁸

In the case of Pasounda village, (Meerut district) the following information is supplied as in this regard :

The mortgage debt on the security of land amounts to 62 per cent of the whole. Total indebtedness of the peasant proprietors came to Rs. 52,700 or 67 per cent of the whole. The average debt per peasant proprietor amounted to Rs. 345; the average among tenants came to Rs. 130.³⁹

The rates of interest charged on loans were high, but varied with the security offered. In village Bhatiyana, we are told, that

37 Report on Village Khiwai, PBEC, UP, p. 231.

38 Ibid.

39 Report on Village Pasounda, PBEC, UP, p. 237.

"the mahajans charged 37½% per annum on all cash loans on personal security; while on the security of ornaments they take between 24 and 37½% according as it is one of gold or silver. On usufructuary mortgages, no interest is charged."⁴⁰ Writing of village Bhensa, Kunwar Bahadur has this to say : "Those who can offer the security of property obtain loans at a lesser rate, e.g., a proprietor can obtain a loan on this security of his land at the rate of 15 per cent. Similarly, the occupancy tenant gets some concessions in the terms of repayment as compared with a tenant-at-will."⁴¹

In addition to loans advanced in cash, loans were also often advanced in kind. True the proportion of loans advanced in kind to cash loans, was fairly low : On Prakash Kusehal in his report of an economic enquiry in village Kandhla, district Muzaffarnagar, calculated that "about 80 % of the debt is incurred in cash and 20% in grain."⁴² Nonetheless, kind loans can hardly be said to have been completely insignificant and therefore something needs to be said regarding the mechanics of kind loans.

"Grain loans", writes Kunwar Bahadur in his report on Pasomda village "are more risky (to the borrower) than cash loans."⁴³ The reason why loans in kind are more advantageous than loans in cash despite the similarity in rates of interest in both cases, is not

40 Report on Village Bhatiyana, PBEC, UP, p. 214.

41 Report on Village Bhensa, PBEC, UP, p. 224.

42 Report of an Economic Enquiry in Village Kandhla, District Muzaffarnagar, in PBEC, UP, Vol. II, p. 339.

43 Report on Village Pasomda, PBEC, UP, p. 235.

difficult to understand. When the crops are harvested, most of the produce is carried away direct from the threshing floor by the moneylender, and its cash value is credited to the debtors account at the rate fixed between them. This rate was always much below the prevailing market rate. The quality of grain was also unsatisfactory; it was not unusual for the lender to advance bad grain and demand the best in return. There was, in addition to all this the very real possibility of the debtor being defrauded in weighing. Shopkeepers sometimes kept two sets of weights, one for purchasing, the other for selling. The weights for the former purpose were often made by shopkeepers of stones and bricks; for the latter they kept the stamped weights. A petty zamindar therefore, always faced the threat of losing out drastically in the case of kind loans : he would sell grain below and borrow it above the market price.

References are made fairly frequently to the "thriving business" carried on by the village mahajan or sahukar. "Debts", we are told, "have been regularly increasing."⁴⁴ In one village, Bhensa, in district Meerut, Munwar Bahadur informs us of the rise of a "new class of moneylenders called the "behwaris", butchers by profession."⁴⁵ They had replaced the professional moneylender and were much more exacting in their dealings. An illustration

44 Report on Village Bhatiyana, PBEC, UP, p. 213.

45 Report on Village Bhense, PBEC, UP, p. 223.

explains the nature of the dealings with the butchers. If a peasant, took a loan of Rs. 100 from a butcher for two years the terms of the loan were as follows :

- (1) To repay the principal sum of Rs. 100, plus Rs. 100 as interest, i.e. the amount of Rs. 200 after two years by four instalments of Rs. 50 each to be paid six-monthly.
- (2) In case of non-payment of any of the four instalments at their due time, a further rate of 24 per cent was charged on the balance. Thus the rate of interest came to about 68.75 per cent, approximately.

When loans were taken in kind, a rate of three annas per rupee per month was charged on the valuation of the total quantity of grain lent out at the time of sowing. As the prices of grain at the time of sowing and harvesting differed by about 2 sers in the rupee, for every one rupee worth of grain, the cultivator in fact, got only 11 annas worth, besides of course having to pay the above stated interest. Thus the rate of interest on all loans taken in kind, amounted to 112.5 per cent.⁴⁶

If despite this tremendously exacting character of their dealings, the bahwaris had been able to establish themselves in village Bhenas, this could mean only one thing : that the demand for credit had not slackened at all; if anything it seems to have expanded. In some villages, the emergence of a co-operative movement supplementing the activities of the village moneylenders was

also noted. In village Bhatiyana, district Meerut, for instance, the cooperative department had established a society with the village panchayat as its guide.⁴⁷ True, "it is still in an un-sound condition owing to the illiteracy and conservatism of the people and the grim opposition of the moneylenders."⁴⁸ The zamindar preferred borrowing from the moneylender for various reasons : he was under the impression that the society debts had to be paid back at any cost, on the due date, while there was a greater flexibility with regard to loans taken from moneylenders.⁴⁹ Another major reason would seem to have been the reluctance of Rajput zamindars in particular, to submit statements of their 'haisiyat', a feeling that, if they are heavily in debt and the secret known to others through the 'haisiyat' statement, they would be looked down upon in society. The idea of keeping their 'izzat' unscathed, was always prominent in the minds of Rajput zamindars who, therefore, preferred borrowing secretly from money-lenders rather than become members of cooperative societies.⁵⁰ And this, despite the fact that the cooperative credit society, in village Bhatiyana, for instance, gave loans on unlimited liability at an interest rate of 9 per cent per annum.⁵¹ Given these pre-

47 Report on Village Bhatiyana, PBEC, UP, p. 213.

48 Ibid.

49 Ibid., p. 217.

50 Ibid.

51 Ibid., p. 215.

judices, it was hardly surprising that between 1916-17 and 1924-1925, the credit society had only 34 members from the village, with loan obligations amounting to only Rs. 10,920, as against a total of Rs. 56,020, owed by the village, to sources other than the cooperative society, primarily money lenders. Even members had incurred loans from mahajans over and above loans from the society. Against the Rs. 10,920 borrowed from the society, the total amount of debt of members, came to Rs. 19,960.⁵²

However, that new sources of credit and on easier terms had a future among the cultivator, would be obvious from the following facts : of the total amount of debts of the members of the cooperative society, 55.5 per cent had been lent by the society, and only 44.5 per cent were taken from extraneous sources.⁵³ Even in those villages where cooperative societies did not exist, implicit in the demand for them was the recognition of the inadequacy of existing sources of credit and the increasing demand for credit, especially on easier terms. In his report on village Bhensa, Kunwar Bahadur, writes this : "... the existing credit facilities in this village are far from being adequate and satisfactory ... The only panacea for this state of affairs is to establish a cooperative society, whose object will be to lend money and also to provide seed and agricultural implements to the cultivator at reasonable prices.... It was encouraging to learn that the culti-

52 Ibid., pp. 215, 217.

53 Ibid., p. 217.

vators had some ideas about a cooperative society ... In fact they expressed their willingness to have a seed store run on cooperative lines."⁵⁴

In addition to the possible role that could be played by cooperative societies in the disbursement of rural credit, almost every report points to the "desire of the cultivator to avail" of yet another credit agency, i.e., the tagavi that was frequently advanced by the government. The instance of tagavi indicates clearly the expanding demand for more credit and on easier terms. Tagavi loans did not expand not because of a lack of demand for credit, but more because of the inadequacy of these advances and the difficulties involved in securing them. "It is rather disappointing." Writer Kunwar Bahadur, of Pasonde village, district Meerut "that inspite of the desire of the cultivator to avail of this credit agency, the facilities provided by the government prove very inadequate. The patwari who provides the hereditary position of distinction in the village stands in the way of an honest and impartial inquiry about the cultivator's demands of tagavi. He would not recommend a particular case unless offered his fixed commission. Besides, the amount advanced by the government in the form of tagavi loans is not available at the time it is most urgently required by the cultivators. The usual difficulties of approaching the revenue officers are experienced throughout the village."⁵⁵ And not only throughout the village; the inadequacy

54 Report on Village Shensa, PBEC, UP, p. 225.

55 Report on Village Pasounda, PBEC, UP, pp. 235-36.

of tagavi and the difficulties encountered by the peasantry in getting it sanctioned seemed to have been problems faced in the entire district writing of village Bhense, Kunwar Bahadur reports that "inspite of the desire of the cultivator to take advantage of this system, he can hardly avail himself of it ... The first complaint met throughout the village was that the cultivators have to spend a good deal before they get the tagavi ... the amount is hardly even sufficient and perhaps rarely given at a time when it is most in demand."⁵⁶ The instance of tagavi indicates clearly the expanding demand for more credit and on easier terms. Tagavi loans did not expand not because of a lack of demand for credit but more because of the inadequacy of these advances and the difficulties involved in securing them.

Some idea of the scale at which moneylending was practised in our region would be had from the figures already given regarding the average debt per per cent proprietors and tenants in different villages. To bring into sharper focus the scale of indebtedness we may quote one further example given by Kunwar Bahadur for village Khiwai, district Meerut : "in the whole of the village," he writes, "there are only 55 zamindars who are free from debt." These too, belong to the new class of mahajan landlords."⁵⁷ There 55 zamindars constituted a mere 10½ per cent of

56 Report on Village Bhense, PBEC, UP, p. 225.

57 Report on Village Khiwai, PBEC, UP, p. 231.

the entire proprietary body.⁵⁸ We could give some more evidence regarding the scale of usury practised in terms of indebtedness per acre or indebtedness per family etc., but we feel that whatever, evidence we have given so far is sufficient for one purpose of simply indicating the scale of practised. We, therefore, move on to the meaning of the kind of money lending practised, for social relations in the countryside.

"The one constant desire of the moneylender," writes Kunwar Bahadur about village Pasaunda, "has always been to impose such terms for repayment of debt as could enable him to oust the peasant proprietor from his land; it has been the common experience of all cultivator that a mortgage invariably ends in a sale, and a peasant proprietor once entrapped by the mahajans, can never extricate himself unless the years are very favourable."⁵⁹ In village Khiwai, "the debts incurred at - high rates, increase rapidly, and very soon amount to a high sum which the debtor finds it impossible to pay; his only way of escape is to dispose of his property to the moneylenders. From the status of a zemindar, he is reduced to the position of a mere tenant. Unfortunately, in the absence of any law like the Land Alienation Act, of such credit agencies as land mortgage banks or the cooperative credit societies, the peasant proprietors of this village have been completely ruined."⁶⁰ Simi-

58 Ibid.

59 Report on Village Pasaunda, PBEC, UP, p. 234.

60 Report on Village Khiwai, PBEC, UP, p. 230.

larly "... our agriculturist," writes Om Prakash Kuschel, "is born a debtor, lives through all his life, a debtor, and one day, dies a debtor, he is never free of debts. These will be hardly any cultivator who is not in the clutches of the moneylender. If he only once borrows money he becomes a debtor to the moneylender for his whole life. The interest that the moneylender charges is so exorbitant, and the way in which he charges it is so cunning, that the poor cultivator, though he pays the double of what he borrows, yet is unable to liquidate his debt ... The cultivators borrow a good deal of money and they begin to realise that their whole produce will not be able to counterbalance the sum borrowed plus its interest; they also know that the moneylender will take all the produce ... So they begin to think of their crops as belonging to the moneylender, and this retards their progress in agriculture. By this system they have to give the whole of their produce to the moneylender and at once when it is cut it means that they have to limit themselves to the market in which the moneylender lives, and also to the time when the crops are ready, a time when generally the rates are very low. They cannot sell in the best market and at the best time, i.e. they cannot get the maximum from their produce.

"Because the cultivator depends completely on the moneylender, he sows the seed which he gets from him. The seed which these moneylenders give him is generally weak. They will not give him good seed when they know they can give him bad seed for the same price. Thus he cannot sow the best seed and cannot purchase the best implements and cattle

"Thus this system of borrowing ruins the cultivator materially as well as morally. The crops cannot yield good produce under these conditions, and the cultivator though producing the most gets the least Their status cannot be raised unless their material position is made better, and their material position cannot be made better as long as this system of borrowing prevails."⁶¹

One major implication of usury and the high interest rates charged should be clear from the above descriptions. Unable to repay the principal plus interest, the agriculturist gradually lost control over land and production, to the moneylender. The scale at which this occurred would be clear from the following figures : In village Pasounda, in 1895 the total number of peasant proprietors was 202. They owned 3,000 bighas of land. In the year 1928 their number had come down to 185 and the area they owned was halved.⁶² In 1907 a peasant proprietor in the same village obtained a loan of Rs. 500 in order to celebrate the marriage of his son and to purchase a pair of bullocks. It was arranged that the usual 24 per cent compound interest would be charged and the loan repaid in ten instalments of Rs. 50 each. Unfortunately, owing to a serious drought and the consequent failure of crops, he could not pay anything for about three years, after three years he died and the son having inherited the property accepted the liability to pay. In 1913, within a period of six years the principal and the interest amounted to about Rs. 1,825. In order to clear this debt, he had to part with his 36 bighas of land

61 Report on Village Kandhla, PBEC, UP, pp. 341-42.

62 Report on Village Pasounda, PBEC, UP, p. 234.

worth about Rs. 5,000. This, perhaps makes clear the mechanics whereby agriculturists - were losing out in the face of usury.⁶³

In village Khiwai, during the five years 1924-28, the following transfers of land took place.

Land Transfers due to Indebtedness

Nature of Debt	Amount of land (bighas)	Amount at which disposed (Rs.)
Usufructuary mortgages	211	15,319
Sold for debt	260	34,203
Auctioned as a result of decree for debt	246	23,360

Out of a total of 3,300 bighas of cultivated land, 506 bighas have changed hands permanently, and 211 bighas temporarily, as a result of debt. Here too, the rate of interest charged on loans was 24 per cent compound, at times going upto 75 per cent.⁶⁴

"The Vaishas, writes the settlement officer for Meerut, in 1940, "have increased their landed property by 50 per cent since last settlement, while agriculturist castes such as Jats, Tagas and Rajputs have lost about an equal area, and there is no doubt that the transfer of so much property has been caused by the growing interest rather than by the original capital debt."⁶⁵

63 Ibid., p. 235.

64 Report on Village Khiwai, PBEC, UP, p. 230.

65 Final Settlement Report of Meerut District, 1940, p. 18.

So much for the process of de-peasantisation through debt, occurring in the countryside. Let us not forget, however, another process occurring side-by-side with this process. "The volume of debt writes the settlement officer for Meerut in 1940, "is as much a reflection of credit and security ... while not minimising the seriousness," he continues, "of Zamindars and tenants who are burdened with debt at usurious rates of interests the general impressions gained from observations and personal enquiries at inspection were, that the extent of rural indebtedness and its reputed increase during the slump have been somewhat exaggerated in public estimation, that there is a large proportion of both zamindars and tenants in quite comfortable circumstances and that their general condition is now more prosperous than it was 40 years ago."⁶⁶ Even Kunwar Bahadur and Om Prakash Kuschal, who otherwise present such dismal picture of a heavily indebted peasantry, are not completely oblivious to certain sections of the peasantry, who though heavily indebted, were not completely depressed by the burden of that debt. Kunwar Bahadur writes at one point, for instance, "the village moneylender is often described as a vampire who sucks the blood of the cultivator, but in fact, he is not altogether the blood thirsty creature which he is often painted. The cultivator is always in need of money and he must invariably borrow from somebody The only person whom in such circumstances he can approach for help is the village

66 Ibid., p. 18.

moneylender. In the rural economy, his services are indispensable. And the peasant always shows a great regard for the village moneylender. In fact, there is no respectability for a peasant without a banker."⁶⁷

The conclusion that emerges from the above statement is that being heavily indebted was not in itself an indication of a peasantry in the process of alienating its land and control over production. While that did happen, that was only part of what happened. At another level indebtedness indicated simply the need of credit for production but not necessarily production for subsistence loans could be taken for production by the sections of the peasantry who could repay the principal plus interest and yet retain a profit. This would, of course imply the consolidation through credit of sections of the peasantry producing not only use-values, but values. "Recently," writes Kuschal, "the agriculturist has acquired a practice of keeping back a sufficient quantity of this produce. This he sells in the market without the knowledge of the moneylender..."⁶⁸ The best index of this, would however, be perhaps a survey of the purposes for which loans were taken. The following table (2.6) is a case in points :

67 Report on Village Khiwai, PBEC, UP, p. 229.

68 Report on Village Kendhla, PBEC, UP, p. 339.

TABLE 2.6

Amount and Percentage of Loans taken for different purposes⁶⁹

Year		Purchase of bull- ocks	Manure	Purch. of she buff- aloes	Old debts	House build- ing	Purch. of cows	Ponies	Trade & market- ing	Marri- age & letiga- tion	Seed	Land rev.	Total
1916-17 (i)	Amount	1,105	130	390	440	100	45	15	395	280	N.A.	N.A.	3,000
	(ii) Per cent of total debt	36.8	4.3	13	14.6	3.3	1.5	0.5	13.1	9.3	N.A.	N.A.	
1917-18 (i)	Amount	535	65	115	400	50	N.A.	N.A.	160	180	115	N.A.	1,590
	(ii) Per cent of total debt	33.6	4.02	7.2	25.1	3.1	N.A.	N.A.	10.1	9.3	7.2	N.A.	
1919-20 (i)	Amount	800	N.A.	100	650	200	N.A.	N.A.	755	N.A.	20	N.A.	2,475
	(ii) Per cent of total debt	32.2	N.A.	4.08	26.2	8.06	N.A.	N.A.	30.5	N.A.	0.8	N.A.	
1920-21 (i)	Amount	345	40	105	350	60	N.A.	N.A.	550	N.A.	25	73	1,605
	(ii) Per cent of total debt	21.5	2.49	10.28	21.8	3.7	N.A.	N.A.	34.2	N.A.	1.5	4.6	
1921-22 (i)	Amount	60	N.A.	N.A.	40	N.A.	N.A.	N.A.	500	N.A.	N.A.	100	700
	(ii) Per cent of total debt	8.5	N.A.	N.A.	5.7	N.A.	N.A.	N.A.	71.0	N.A.	N.A.	14.2	

Cont'd... Table 2.6

Year	Purchase of bullocks	Manure	Purchase of she buffaloes	Old debts	House building	Purchase of cows	Ponies	Trade & marketing	Marriage & litigation	Seed	Land rev.	Total
1923-24 (i) Amount	530	N.A.	155	N.A.	N.A.	N.A.	N.A.	200	150 (leti.) 50 (marri.)	N.A.	70	1,100
(ii) Per cent of total debt	48.7	N.A.	14.09	N.A.	N.A.	N.A.	N.A.	18.1	22.7 4.6	N.A.	6.3	
1924-25 (i) Amount	N.A.	N.A.	150	100	N.A.	N.A.	N.A.	200	N.A.	N.A.	N.A.	480
(ii) Per cent of total debt	N.A.	N.A.	33.3	22.2	N.A.	N.A.	N.A.	44.4	N.A.	N.A.	N.A.	
Average	25.9	1.54	11.7	16.5	2.59	0.2	0.01	31.6	6.95	1.35	3.5	10,920

The above table is taken from the records of the cooperative society in village Bhatiyana. The bulk of the loans, it will be seen, were here taken either for the purchase of bullock or for trade and marketing. Only 16.5 per cent were taken for paying back old debts and even less - 6.5 per cent for marriage or litigation. This would seem to suggest that those sections of the peasantry at least, who were member of the cooperative, credit society-trust, they were very few - were not borrowing what are called consumption loans for purposes of subsistence. The fact, that trade and marketing played such a major role in the total loan taken would, in fact suggest that even production was not so completely dependent on advances. The peasantry was, in fact borrowing for purposes of marketing and trade in order to ensure that what they produced, they marketed as well, i.e., "sections of the peasantry" had reached a point of independence where it sought control over what it produced.

The bullock-cart was the chief means of communication. Appearance of the motor lorry and the public motor omnibus had facilitated the transport of agricultural produce, but they had, in no way superseded the bullock-cart.⁷⁰ A bullock-cart could carry as much as 20-30 maunds of grain.⁷¹ The rate at which cars were available for transporting grain from one place to another was roughly one paise per maund.⁷² If a farmer possessed his own

70 Ibid., p. 219.

71 Ibid.

72 Ibid.

bullock and carts, not only could he avoid the freight charges, but he could even try and take over the transport of grain to the market for other of his brethren thereby earning an income for himself. The increased number of loans taken for the purchase of bullocks and for trade and marketing generally could perhaps be indicative of this as well. 10

Even the settlement officer, for Meerut in 1940 notes "that there is far more debt among landholders and tenants in fertile than in precarious tracts."⁷³ Some enquiries into the causes of debt were made by Messrs Waugh and Gill in 1931.⁷⁴ They were, of course restricted to very few villages, but what they suggested was, we feel, not necessarily indicative of the entire peasantry reduced completely, to borrowing for its very subsistence and for the payment of its rent and revenue dues : "... the main cause for about two-thirds of the debt was marriage and social expenses ... only about 5 per cent could be attributed to payment of rent and revenue while no particular reliance can be placed on these figures as representative of the whole district such enquiries as were possible during inspections in 1936-38 tended to confirm the conclusion that the main causes of debt were not connected with the burden of land revenue ... in every community there are to be found some who would 'throw away a birth-right to celebrate a marriage...."⁷⁵

73 Final Settlement Report of Meerut District, 1940, p. 18.

74 Ibid.

75 Ibid.

What we have said above, is extremely significant. Extensive borrowing for social expenses, was not necessarily linked with a peasantry in the process of losing control over its own production. It could, on the contrary, be quite integrally tied up with the stabilisation of petty peasant production relying primarily on family labour. In such a situation, ceremonies and rites tied up with the family would assume tremendous importance. Of course, borrowing for trade and marketing would be representative of a much more advanced peasantry; the point is, that such heavy borrowing for social expenses is different from borrowing taking primarily the form of consumption loans, and does not necessarily imply a peasantry on the way to complete pauperisation. Section within this peasantry, would, in the course of their struggle for existence, go under; sections would be able to rise into the ranks of the more prosperous. The fact of their borrowing heavily would not necessarily lead them to only one end - their doom.

This section on credit brings us to the end of our discussion on the condition of agricultural production emerging in Meerut and Muzaffarnagar during the late nineteenth and early twentieth centuries. In the previous two chapters our major attempt has been to try and show that movements in various economic indices, were creating in western U.P. countryside, conditions within which improvement in actual production would be possible over our period. We move on now to try and show, what happened to production itself, during the late nineteenth and early twentieth centuries, in Meerut and Muzaffarnagar.

CHAPTER III

PRODUCTION

SECTION A

EXPANSION IN AREA UNDER CULTIVATION

The following are figures showing the movement in area under cultivation in the districts of Meerut and Muzaffarnagar :

TABLE 3.1

Index of Expansion in Area Cultivated¹

Area	1814-15	1840	1865	1890-94	1914-15	1918-20
Meerut	100	181	183	189	-	169
Muzaffarnagar	-	100	166	177	185	167

TABLE 3.2

Percent Rate of Growth in Cultivated Area

Area	1814-15	1840	1865	1890-94	1914-15	1918-20
Meerut	-	81	1.11	3.28	1.59	-11.98
Muzaffarnagar	-	-	66.00	6.63	4.52	-9.73

¹ Figures between 1814-1894 are worked out from Simon Commander, The Agricultural Economy of Northern India, 1800-1860, Table 2.2, Figures for the last two columns were worked out from tables in Agricultural Statistics of India for the respective years.

There seems to have occurred a cycle of agrarian expansion during the first half of the nineteenth century. In the latter half this cycle seems to have been considerably retarded, earlier in Meerut than in Muzaffarnagar. The accounts of this process, in the gazetteers for the two districts confirm this general movement. In Muzaffarnagar, for instance, in 1848, the cultivated area amounted to 628,863 acres or over 59 per cent of the whole area.² In 1853, the cultivated area had increased by 41,605 acres or 6.6 per cent over the previous cultivation and 4 per cent over total area. At the settlement of 1862, the total area cultivated showed a falling off, to slightly over 60 per cent. This was due primarily to disturbances caused by the mutiny as well as to the famine of 1860.³ In 1872 the returns showed an increase of 4,000 acres, in area under cultivation, the whole amounting to 65 per cent of total area.⁴ At the time of the revenue settlement in 1892 the total cultivated area amounted to 683,783 acres or 64.4 per cent of the total area of the district.⁵

The figures for 1872 and 1891, suggest primarily a recovery of ground lost during the 1860 famine; at best, they could indicate a very slight actual increase in area under cultivation. This is, in fact, remarked upon by Miller in the settlement report

2 Muzaffarnagar : A Gazetteer, H.R. Neville, 1903, p. 28.

3 Ibid.

4 Ibid., p. 29.

5 Ibid.

of 1891 : "The extension," he says, "must be attributed in great measure to the season at which the measurements for last settlement were made, when first the mutiny and then the famine had driven off many of the cultivators To a great extent ... the spread of cultivation means nothing more than the recovery of villages that owing to desertion or other cause had lost ground in the mutiny and subsequent troubles."⁶ In fact, even this extension was not characteristic of every part of the district. There had been no considerable increase in the eastern parts of district Muzaffarnagar, between the 1860's and 1890's. On the contrary, there had been a considerable decrease, most marked in pargana Muzaffarnagar. This, we are told by the settlement officer, was caused partly by a "real diminution of the culturable area in a few villages that have suffered from over-saturation."⁷ Cultivation had expanded mainly, in tehsil Budhana - 5,412 acres, in parganas Bagra and Chertwal - 4,318 acres and in tehsil Kairana - 7,068 acres.⁸ As for the future the settlement officer writes thus : "It is not probable that there will be any great addition to the cultivated area in the future ... tehsil Kairana is now the only part of the district in which there is much culturable waste, and its present condition leaves little hope that any large portion of this land will come under the plough.

6 Settlement Report of the Muzaffarnagar District, 1892, p. 38.

7 Ibid.

8 Ibid.

Elsewhere, extension of cultivation is scarcely to be wished for; the cultivated area already occupies a sufficiently large proportion of the whole."⁹ That the extension of cultivation had, in fact, reached a limit, would be evident from the fact that even wastelands had begun to be encroached upon : "In Goela, one of the best cultivated villages in Shikarpur, a partition was immediately followed by the breaking up of the waste land; ... and of the eastern parts of the district generally, it may be said that the waste and fallow land, are not now more extensive than is advisable."¹⁰ We are told further : "In the prosperous parts of the district, the area of culturable land is now small..."¹¹ No doubt, "much of the land that is now classed as unculturable, could ... be rendered fit for cultivation by clearing or draining or by protection against floods by embankments. But to adopt the necessary measures on a large scale is beyond the means and energies of the people ..."¹²

The opinion of the settlement officer was borne out by the figures of subsequent years. At the time of the compilation of the gazetteer, the normal cultivation appeared to be 66 per cent of total area.¹³ The average for the five years preceding this, was 63.2 per cent of the total area.¹⁴ But this does not give a

9 Ibid.

10 Ibid.

11 Ibid.

12 Ibid., p. 37.

13 Muzaffarnagar : A Gazetteer, p. 30.

14 Ibid.

reliable idea of the state of cultivation in the district given the fact that within this period, were two dry years, 1897 and 1898; in the former, cultivation had fallen to 59 per cent of total area.¹⁵ Taking, therefore, the figure for 1903 as being more reliable and comparing it with the figures provided in the settlement report of 1891, it may be suggested that cultivation in this district had approached within measurable distance of finality. True, the culturable waste during the five years, 1898-1903 varied from 20-26 per cent of the total area.¹⁶ But "if the area of waste and culturable land is large in comparison with the neighbouring districts, and especially those lying to the south of Muzaffarnagar it is not because there are any extensive tracts of good land waiting to be broken up, but its presence is rather due to the configuration of the country, such land consisting for the most part of the wide stretches of precarious soil in the neighbourhood of the great rivers, or of the dhak jungles of Jhunjhana or the saturated land in the north-west of the district Moreover, we find classed as culturable, an extensive area of poor sandy soil in the Muzaffarnagar and Jansath tehsils, much of which could no doubt, be brought under the plough, but which could never repay cultivation continuously..."¹⁷ Further as in the settlement, so also in the gazetteer it is recognised that whatever, culturable land does exist, exists mainly in the

15 Ibid.

16 Ibid., p. 31.

17 Ibid., p. 29.

western portion of the district where, in Kirana, nearly 30 per cent of the land was capable of cultivation, and in Bidauli, about 40 per cent.¹⁸

It is, in fact, only in Kairana that the bulk of the expansion in cultivated area occurs right upto 1920. This information is provided us in the settlement report for Muzaffarnagar, for that year.¹⁹

In Meerut by 1903, "cultivation has already reached a point approximating to its furthest possible limit. Already a large amount of land has been brought under the plough which was formerly considered unculturable. Wide areas in the neighbourhood of Jhils and depressions are now regularly cultivated, although of course such land is liable to saturation in years of exceptionally heavy rainfall ... at the last settlement ... there was actually an apparent decrease in the cultivated area as compared with that of thirty years previously."²⁰ This entire passage reads almost like an extension of the above description of district Muzaffarnagar, and not surprisingly. Conditions in Meerut district were, in fact, very similar to those in Muzaffarnagar.

At the time of Sir H.M. Elliot's settlement in 1836, the total cultivated area of Meerut district was 855,879 acres or somewhat less than 57 per cent of the whole.²¹ In 1860, the area

18 Ibid., p. 31.

19 Final Settlement Report of Muzaffarnagar District, 1921, p. 10.

20 Meerut : A Gazetteer, H.R. Neville, 1903, pp. 35-6.

21 Ibid., p. 35.

had increased to 1,043,515 acres or 69 per cent of the total area.²² In 1902, the total cultivated area amounted to 1,093,576 acres or over 72 per cent of the whole area.²³ But the prospects of its expanding any further appeared rather bleak. True, 15 per cent of the total area remained culturable²⁴ but then, "generally, the culturable area is greatly exaggerated for in the uplands at any rate there is very little waste that is really fit for cultivation and which would repay the labour and expense²⁵ incurred in bringing it under the plough." And true enough, the area figures for 1940, in the settlement report of that year show a very marginal increase over the figures provided in the previous settlement. Taking only the absolute figures, the cultivated area would seem to have increased by nearly 42,000 acres or 4.1 per cent over the cultivated area of last settlement.²⁶ If it is remembered, however, that the last settlement was carried out during a period of drought and scarcity (1896-1900), which naturally caused a temporary contraction of the cultivated area, then a slightly different picture would emerge. The cultivated area would appear to have increased by only about 10,000 acres or 1 per cent the conclusion is that over the whole district, cultivation is generally remarkably stable."²⁷

22 Ibid., p. 35.

23 Ibid., p. 36.

24 Ibid., p. 37.

25 Ibid., p. 36.

26 Final Settlement Report of Meerut District, 1940, p. 7.

27 Ibid.

While the total area under cultivation seemed to have reached a certain finality over the period under discussion, the area double-cropped, it would appear, increased, at the same time. The following are the statistics for area double cropped :

TABLE 3.3.

Percentage of Area Double - Cropped²⁸

Area	1840	1870-75	1884	1895-1920
Meerut	-	4.5	18.3	40.2
Muzaffarnagar	4.5	7	14.3	31.1

Evidence from the district gazetteers of Meerut and Muzaffarnagar confirm this trend towards a secular increase in the area double-cropped, in both districts. Calculating the average for five years preceding the settlement of 1891, the gazetteer for Muzaffarnagar places the area double-cropped at 14 per cent of total cultivation.²⁹ In the Ganges Khadir and especially in that part of it which lies in Bhuma Sembalhera, the defauli increased to 30 per cent.³⁰ In pargana Kandhla it amounts to nearly 23 per cent,³¹ and 16.6 per cent in the entire Budhana tohsil, and in Kairana.³² In certain other areas, however, as for instance

28 Simon Commander, Agrarian Economy, op.cit., Table 2.3.

29 Ibid., p. 35.

30 Ibid.

31 Muzaffarnagar : A Gazetteer, p. 35.

32 Ibid.

in Jansath tehsil and Muzaffarnagar, the double-cropped area is as low as 10.1 per cent and 11 per cent respectively, the lowness of the figures in this part of the district being due to the prevalence of sand, double-cropping being practised generally only where there are abundant facilities for irrigation.³³ These regional variations apart, however, the double-cropped area had increased to 16.5 per cent of total cultivation by 1901.³⁴ In 1920 the settlement report for Muzaffarnagar put the figure of the area double-cropped at nearly a quarter of the total area."³⁵

In Meerut, "the double-cropped area is large and has shown an enormous increase during the past forty years."³⁶ At the time of Forbes' settlement in the 1860's 46,000 acres or only 4.5 per cent of total cultivated area was double-cropped.³⁷ The average for the five years preceding the settlement of the 90's was 22,000 acres or nearly 22 per cent of total cultivation.³⁸ Here too, the increase was ascribed to the development of canal irrigation.³⁹ Later, the Meerut Settlement Report for 1940 speaks of a 30 per cent rise in the area under *defasli* as compared to about 40 years

33 Ibid.

34 Ibid.

35 Final Settlement Report, pp. 10-11.

36 Meerut : A Gazetteer, p. 39.

37 Ibid.

38 Ibid.

39 Ibid.

previously.⁴⁰

The district average is put at 28 per cent of total cultivated area, "rising to 40 per cent and even 45 per cent in the best canal tracts."⁴¹

One very interesting fact that emerges from all the above evidence,^{is} that marked expansion in double-cropping coincided with the stagnation in cultivated area that set in, around the end of the nineteenth century. It is possible of course to argue that the slow movement in net area after the 1860's was an indication of the fact that the upward limit of extensive growth had been reached; that after this, only marginal lands were open to cultivation; and attempts to extend cultivation after this point, would under conditions of stagnant technology, lead to a fall in productivity.⁴² That this did, in fact, happen would be suggested by the series of famines that occurred around the same time. It would be wrong, however, to isolate the process towards stagnation as the only process going on in the countryside without considering certain other factors, of which double-cropping is one. The expansion of area double-cropped, coinciding as it did with the upward limits of lateral expansion in cultivation, would suggest that all was not stagnant within the agrarian economy. Moreover, the argument for stagnation would hold only

40 Final Settlement Report of Maerut District, 1940, p. 8.

41 Ibid.

42 Simon Commander, Agrarian Economy.

if it could also be shown that (a) the crop-mix was basically stable, without a shift in favour of high-value crops; (b) there were no significant changes introduced in the technical organisation of production; and (c) there was an actual decline in yields.

To take up first, the crop-mix. An increasing density of consumers per acre does not necessarily mean stagnation of production (See Table 3.4) if we can show alongside a change in the crop-mix grown, in favour of high-value crops. Perhaps the most significant shift from the cultivation of low-value to high-value crops occurred within the Kharif harvest. We will therefore, first take up for discussion the changing crop-mix during the Kharif.

TABLE 3.4

Percentage of Total Area Under Different Crops⁴³

KHARIF

Sugar-cane

Area	1840	1865	1890	1895-1900	1913-18
Meerut	3.	7.2	9.	10	9.69
Muzaffarnagar	4.75	6.	8.3	-	10.2

Juar - Bajara

Meerut	17.8	17	17	-	8.57
Muzaffarnagar	19.8	14	13.8	-	4.42

Maize

Meerut	4.8	4	11	-	7.94
Muzaffarnagar	-	2.7	9	-	4.54

43 Figures for 1840-1900 are taken from the Gazetteers of the two districts; figures for 1913-18 are worked out from data in Agricultural Statistics of India for the respective years.

The area under sugar-cane in Muzaffarnagar has shown a rapid expansion throughout the period under consideration. "Sugarcane, is one of the most important crops in the district, and for many years has been constantly on the increase."⁴⁴ In 1841, sugarcane covered 4.75 per cent of the total cultivated area. In 1860 the average area under cane, for the district, as a whole, had increased to 6.2 per cent and in 1891 to 8.3 per cent of total cultivation.⁴⁵ Since the settlement the cultivation of sugarcane has been even further extended, and in every part of the district, but especially that through which the railway runs, one is constantly struck by the sight of large fields of sugarcane in every direction."⁴⁶ By 1920, sugarcane "the most valuable of all crops" had come to cover according to the settlement report of 1920, 80,000 acres or 12.5 per cent of the total cultivated area.⁴⁷

In 1860, sugarcane was grown chiefly in the parganas of Khatauli, Shamli, Pur Chhapar, Gordhanpur and Shikarpur.⁴⁸ Between then and the end of the nineteenth century the cultivation of sugarcane expanded mainly in Bhukarheri and the eastern parts of the district generally, so much so, that it came to be remarked that, "in the eastern half of the district sugarcane is

44 Muzaffarnagar : A Gazetteer, p. 36.

45 See Table 3.3.

46 Muzaffarnagar : A Gazetteer, p. 36.

47 Final Settlement Report, Muzaffarnagar, 1920, p. 10.

48 Muzaffarnagar : A Gazetteer, p. 36.

... the principal crop ... In the western parganas, cane is not grown to quite the same extent, partly because, though a very large proportion of the land is irrigable, the supply of water is not plentiful, and partly, it is said, because soils with a mixture of sand are not adopted for cane cultivation."⁴⁹

Sugarcane was a kharif crop. While cane cultivation expanded, the cultivation of other important kharif crops, tended to decline. Significant in this respect, are jwar-bajra, and maize. For bajra we are told that "since the settlement (1891-92) there has been a distinct decrease in the area under bajra - a fact that shows improvement, as the presence of this crop is a clear sign of poor soil and careless agriculture." Bajra, grown mainly in the western portion of the district covered a mere 5.3 per cent of the total cultivated area even at the time of the settlement of 1891.⁵⁰ As for the other crops - jwar and maize - it is significant that the phase of their major decline coincides with the sharp upswing in the area under sugarcane. The initial expansion in the area under the maize crop coincided with the decline in the cultivation of cotton and indigo. "It (maize) has largely taken the place of cotton and indigo,"⁵¹ wrote the gazetteer for Muzaffarnagar, in 1903. "Cotton", it continued, "is a valuable but not a very important crop." The area under cotton in fact

49 Ibid., p. 37.

50 Ibid.

51 Ibid., p. 38.

fell from 4.1 per cent of the total cultivated area in 1850, to 3 per cent in 1901. And not surprisingly, for "cotton required the best land and plenty of manure, and in this district it is more profitable to cultivate such land with other crops."⁵² Indigo seems to have suffered a similar fate in this district, and that too, much earlier. "At Thornton's settlement (), indigo was hardly grown at all in the district, and again in 1860 it was practically unknown. At Miller's settlement (1892-) indigo covered one per cent of the total cultivated area In 1901 indigo has decreased by over 2,000 acres, and its total extinction seems only a matter of time."⁵³ It was these two crops which were, to a large extent, during the late nineteenth century, being substituted by maize. The latter, however, it would seem was tending to lose out in the long run, to its own competitor, sugarcane. Jwar cultivation seemingly was undergoing a somewhat broadly similar metamorphosis. It is significant that even in the period 1860-90, it managed to sustain itself not so much as a food grain, but more as 'chari', a fodder crop.⁵⁴ However, the fact, that even as a non-foodgrain, it could not sustain itself for long, and that its decline like that of maize coincided with the expansion in sugar cultivation, would suggest that the fate of jwar was determined as much by cane, as was that of maize. In keeping with the shift in emphasis from low-value

52 Ibid.

53 Ibid., pp. 38-9.

54 Ibid., p. 37.

food-grains to high value commercial crops, was the slight increase and generally relatively stable performance of the rice crop : "Since the opening of the ganges canal," we are told "the cultivation of the finer kind of rice known as 'munji' has increased considerably. Formerly, it could only be grown in favourable spots in the khadir and near the tanks, but it now alternates with cane, cotton, maize, wheat and grain in the very best land around the village."⁵⁵ Clearly, rice was not grown so much as a foodgrain, but more as a commercial crop, but even in this case, it does not seem to have been as important as the sugarcane crop.

It would appear from the pattern of the above figures that the late nineteenth century was a period when a certain experimentation was taking place towards crop diversification. That is the time when we notice an upswing in the area under crops such as maize as well as rice. Even jwar area remains more or less stable between the 1860's and 1890's. This process of experimentation, it would seem, resolves itself in the years between the 1890's and 1920's in favour of one single crop - sugarcane. The reason it would appear was the greater profitability of the sugarcane crop. Gracey, when collector of the district, made a minute investigation into the respective cost and profit of each crop in 1899.⁵⁶ His figures do show the sugarcane crop to have been the most valuable one, yielding an average "profit" of Rs. 46-8-0 per acre

55 Ibid., p. 39.

56 In calculating cost of production per acre, Mr Gracey takes into account, capital outlay, wages for labour, and rents by tenants.

throughout the district. This is despite the far greater capital outlay and labour that is required for purposes of cane cultivation as well as the higher rent that is paid by tenants producing cane.⁵⁷ Cotton yields a far larger profit than would be suggested by its decline; the average profit per acre on an estimated average outturn of 15 maunds, amounted to Rs. 39-9-0. Further, cotton cultivation was much simpler compared to cane cultivation, requiring much less irrigation, and much lower sowing charges. In addition, the rents paid by cotton producing lands were much lower than those paid on lands producing cane.⁵⁸ Thus, the greater profitability of maize vis-a-vis cotton, during the latter half of the nineteenth century would appear to have been more conjunctural than permanent. The fact that cotton did not recover even after the 1890's was not so much, because of the strength of maize as a profitable crop, but mainly because sugarcane was now asserting itself very powerfully as the most valuable crop, with the highest profitability.

Among other kharif crops, the only one for which profit figures are available, was rice. Rice yielded Rs. 15-11-0 per acre as profit. Requiring irrigation on a scale as large as that required by sugarcane, and rents on rice lands being fairly high, rice was hardly as profitable a crop as sugarcane.⁵⁹

57 Muzaffarnagar : A Gazetteer, p. 40.

58 Ibid., p. 60.

59 Ibid.

One contradiction remains unresolved so far. Sugarcane, we saw expanded throughout the district but primarily in the eastern regions, at least until the late 1890's. Maize and jwar, we are told were crops grown primarily in the western portions of the district.⁶⁰ Jwar, for instance, grew mainly in paraganas Budhana, Shikarpur, Kendhla, Shamlā, Bagra and Kairona.⁶¹ If sugarcane replaced to a large extent, both jwar and maize, then sugarcane cultivation between the 1890's and 1920's must have expanded westwards as well. Perhaps, because sugarcane cultivation initially remained restricted to the eastern half of Muzaffarnagar, with its better irrigation facilities, maize and jwar managed to survive in the west. Bajra on the other hand, more suited to the lighter soils of the eastern paraganas, suffered a severe decline much before either maize or jwar.⁶²

So much for the kharif crops. What of the rabi?

TABLE 3.5

Percentage of Total Cultivated Area Under Different rabi
Crops⁶³

Area	1840	1865	1890	1913-18
<u>WHEAT</u>				
Meerut	28.5	26.4	26	24.99
Muzaffarnagar	26.5	-	33	29.26
<u>GRAM</u>				
Meerut	4.8	4	11	12.93
Muzaffarnagar	-	2.7	9	15.38

60 Ibid., pp. 37-38.

61 Ibid., p. 37.

62 Ibid., pp. 37-38.

63 Figures from 1840-1890 were worked out from figures given in ...

In Muzaffernagar wheat constituting 33 per cent of the whole cultivated area, had come to predominate in the rabi season as the "great staple of the district" as early as 1903.⁶⁴ In some parts of the district, for instance, in Kairana and Bidauli, wheat occupied 38.7 per cent and 44 per cent of the total cultivated area.⁶⁵ The gazetteer comments on the fair stability of the acreage under wheat in the district over the past thirty years.⁶⁶ This, it would appear was an opinion shared by the settlement officer in 1891 too, since no reference is made in Miller's report, to any increase in the acreage under wheat between the time of his own settlement and the settlement preceding that. This is not to say that acreage under wheat did not increase in certain parts of the district. It did increase in the parganas of Khatauli, Bhuma, Sambalhora, Budhana and Shikarpur. This increase, however was counterbalanced by a decrease in Khandhla, Charthawal, Thana Bhawan, Jhinjhana and most of the other western parganas, with the result that "the cultivation of wheat has not varied to any great extent during the past thirty years."⁶⁷ By 1920 however, we are told in the settlement report for that year,

Cont'd... f.n. 63

the gazetteers for the two districts. Figures for 1913-18 were worked out from data given in Agricultural Statistics of India.

64 Muzaffernagar : A Gazetteer, pp. 35-6.

65 Ibid., p. 36.

66 Ibid.

67 Ibid.

"the famous Muzaffernagar wheat covers almost 40 per cent of the whole cultivated area."⁶⁸

While this figure of 40 per cent might be an exaggeration, there is no reason to believe that the figure for 1913-18 in our table 3.5 represented an actual decline in area under wheat as compared to the figures for the 1890's, especially since the period of the First World War was a period of a boom in wheat exports. Perhaps the gazetteer figures were calculations of wheat mixed with other crops, while the figures for 1913-18 were figures for wheat alone. This same point would hold true for Meerut as well. This would tend to be borne out by the fact, that actually, the tendency noted even in the gazetteer, for Muzaffernagar was, for more and more of the wheat crop to be sown alone, with the result, that the proportion of wheat to other crops would increase, though wheat alone might still represent less than what it represented when calculated together with, for instance barley. Further, given, that wheat yields did not decline - if anything they increased slightly (the question of yields is taken up later) it would not be too surprising if the area under wheat did not go up very drastically.

Gracey computed the yield of wheat at 22 maunds per acre, giving a profit of Rs. 37. The crop cost fairly little to produce and the rent on lands producing wheat - Rs. 12 - was the same as that for land producing cotton - fairly low.⁶⁹ Naturally, the

68 Final Settlement Report of Muzaffernagar District, 1921,
p. 10.

69 Muzaffernagar : A Gazetteer, p. 40.

gazetteer noted, "wheat is often sown in very bad land."⁷⁰ Such land that would otherwise have been more suitable for cultivating barley; for barley "is not a valuable crop and is generally a sign of poor land and inferior cultivation."⁷¹ But barley yielded a profit of Rs. 21-2-0, much lower than that of wheat, and that too, only with irrigation.⁷² No wonder the gazetteer remarked that "barley, at the time of settlement, covered five per cent of the cultivation, but since that time, has decreased considerably."⁷³ Undoubtedly, barley was giving place to wheat, even on land that was naturally more suited to barley, i.e. on inferior soils. "The great bulk (of the wheat crop) is sown alone ... on account of its higher market value and in order to supply the export trade."⁷⁴

One other marked change occurred in the agricultures of the district during the rabi harvest, and that was the growing importance of gram and peas. As early as 1891, Miller writes about this : "... the one fact that seems to be brought out by the returns is that gram and peasa are now more popular crops than formerly, and that the miscellaneous kharif staples are not so commonly grown."⁷⁵ From constituting 3.1 per cent of the total

70 Ibid.

71 Ibid.

72 Ibid.

73 Ibid., p. 39.

74 Ibid., p. 36.

75 Settlement Report of Muzeffernagar District, 1892, p. 42.

area in 1860, gram and peasa came to cover 12 per cent of total cultivation in 1891 and increased by a further 30,000 acres in the following decade.⁷⁶ In the settlement report of 1920, we are told that the area under gram and peesas had continued to grow.⁷⁷ Gram, capable of growing on inferior lands, requiring no irrigation, and yet yielding a profit of Rs. 24-14-0,⁷⁸ was clearly a crop more worthwhile than barley. It is possible that gram and not wheat alone, replaced barley on some of the poorest soils, which might also have been devoid of irrigation facilities.

Similar to movements within the crop mix in Muzaffarnagar, were also, the changes taking place in Meerut. To take up first, the crop in which the change was most marked - sugarcane. As early as 1807 Guthrie, the collector of Saharanpur, which then included, Meerut, Muzaffarnagar and a part of Bulandshahar, wrote : "it is estimated that 22000 bighees are under sugarcane cultivation; thus this cultivation is already considerable"⁷⁹ By the time of Forbes' settlement in 1860, the area under cane had increased to 73,643 acres or over 7 per cent of total cultivation.⁸⁰ At the time of Gillan's revision (.), it had risen to 9.97 per cent and by 1902, it covered 115,411 acres or over 11 per cent.⁸¹

76 Muzaffarnagar : A Gazetteer, p. 39.

77 Final Settlement Report of Muzaffarnagar District, 1921, p. 10.

78 Muzaffarnagar : A Gazetteer, p. 40.

79 Meerut : A Gazetteer, p. 40.

80 Ibid.

81 Ibid.

At the time of the Final Settlement Report of Meerut in 1940, sugarcane covered 13 per cent of total area cultivated.⁸² By far the greatest area under cane, at least at the time of the writing of the gazetteer, was in the Baghat tehsil, but there also occurred a very rapid spread of its cultivation in the eastern perganas. Meerut, Mawana, Ghaziabad and lastly Sardhana and Hapur are in that order the other major cane growing areas.⁸³ The importance of the cane crop for the people of Meerut would be evident also from the various ceremonies connected with its cultivation. First, sugarcane was sown only when the wind blew in a particular direction. Until the wind was not seen to be favourable, sugarcane was not planted.⁸⁴ Another ceremony was connected with the first ploughing, which required the attendance of Brahmans.⁸⁵ Finally, when the cane was planted, the plough became an object of devotion and received offerings of turmeric and rice.⁸⁶ Further ceremonies were associated with the cutting of cane. The first cane, cut at Diwali was bundled up and tied with a red thread; after this, the cane was distributed and the occasion made the pretext of a substantial feast.⁸⁷

82 Final Settlement Report of Meerut District, 1940, p. 8.

83 Meerut : A Gazetteer, p. 41.

84 Ibid.

85 Ibid.

86 Ibid.

87 Ibid.

In Meerut, as in Muzaffarnagar, the growing importance of cane went hand in hand with the decline of other kharif crops, not ably, jwar-bajra, and maize. Here too, the late nineteenth century, saw competition between various crops struggling for dominance, a conflict which found its resolution in the victory of cane as the most important kharif crop, during the early twentieth century.

The figures for the other kharif crops have simply to be compared with those for sugarcane above, for the above conclusion to be verified. Moreover, the major jwar and maize growing areas coincided with the major cane growing areas. Both maize and jwar are grown primarily in Baghpat, Ghaziabad and Hapur,⁸⁸ and these, especially, Baghpat were also areas in which cane was cultivated. In Muzaffarnagar we saw that the area under jwar remained more or less stable during the thirty years between 1860-90, and that under maize, in fact, even increased. It was only in the three decades that followed, that both maize and jwar actually suffered decline, and sugarcane a fairly substantial increase. In Meerut the pattern appears to have been similar, and so do the reasons. The appearance of sugarcane did not immediately destabilise jwar, probably because of its importance not only as a food crop, but equally much, as a fodder-crop. In this district as in Muzaffarnagar, "a large amount of jwar is grown ... for fodder under the name of 'chari'".⁸⁹ As for maize, that crop probably began by

88 Ibid., p. 42.

89 Ibid.

replacing cotton to a large extent and then suffered itself, at the hands of sugarcane. Cotton covered in 1860, 89,900 acres, or 8.7 per cent of total cultivated area.⁹⁰ In the years following 1860, it declined massively, at one point to a mere 58,200 acres.⁹¹ It was only during the 1890's that it recovered slightly, rising in faali 1,309, to 66,800 acres or 6 per cent of total cultivation.⁹² It was the initial vacuum left by cotton which was probably filled in, partly by maize and partly by cane, accounting for the initial expansion in area under maize.

Bajra, suffered a fate similar to that of jwar and maize, but as in the case of Meerut, earlier than either of those crops. Between 1860 and the next settlement, the area sown with bajra had declined by almost two-thirds, "and this in itself is a sign of improved cultivation" since bajra was sown in sandy tracts and inferior loam, where other crops either failed or could not be grown at all.⁹³ The shift away from bajra meant that growing other crops was probably becoming more profitable, even if they involved greater investment on land that was otherwise suited to bajra cultivation.

Figures showing the relative profitability of different kharif crops are very limited in the case of Meerut. No figures

90 Ibid.

91 Ibid.

92 Ibid., p. 43.

93 Ibid., p. 42.

exist for sugarcane, for example. Jwar could be produced at about Rs. 7 or above. The produce varied from 8 to 12 maunds a acre and its value from Rs. 20 to Rs. 30.⁹⁴ Bajra involved an expenditure; the average outturn was about 10 maunds, and the value about Rs. 20.⁹⁵ Cotton, costing about Rs. 13 per acre, yielded an average of seven maunds and sold at Rs. 30 to Rs. 35.⁹⁶ The cost of production of maize ranged from Rs. 12 to Rs. 15. The average produce per acre was about 12 maunds and its value, Rs. 30.⁹⁷ It would not be very difficult to understand why maize replaced cotton. Its average outturn per acre was much higher, and therefore, its average profitability per acre. This was probably aided by the fact that the cotton industry went into a depression. This made the replacement of cotton by maize, even easier. If figures had existed for sugarcane we could probably have been able to understand what happened to maize vis-a-vis cane. If the Muzaffarnagar data is any guide, we may safely assert that the profitability of cane cultivation was definitely the highest among all crops.

In the rabi harvest, the most important crop was wheat. Grown on all sorts of land, the bulk of the wheat in the district was sown alone, though some was mixed with barley as well. The figures for wheat for Meerut District, in table 3.5 show a trend

94 Ibid.

95 Ibid.

96 Ibid., p. 43.

97 Ibid., p. 41.

similar to that seen in the case of Muzaffarnagar : a marginal increase in the 1890's over 1860, and a decline over 1913-18. This decline, as in the case of Muzaffarnagar was probably not an absolute decline either and represented perhaps wheat mixed with other crops in the one case and wheat alone, in the other. That the area under wheat alone was increasing in the first half of the twentieth century, is borne out by the Final Settlement Report for Meerut district, as well. The area under wheat alone was reported to have increased by a further 46,000 acres by 1940.⁹⁸ With its cost of production estimated at Rs. 30, and yielding an average outturn of 15 maunds per acre, valued at Rs. 45, wheat was a fairly profitable crop to grow.⁹⁹ This accounts for the expansion of area under wheat cultivation. The major wheat growing regions within Meerut, were Baghpat, Ghaziabad, Meerut and Mawana tehsils.¹⁰⁰ In Baghpat, Ghaziabad and Sardhana, wheat was also mixed with gram, while in Mawana and Hapur, wheat mixed with barley was more common.¹⁰¹

The expansion of wheat cultivation occurred mainly at the expense of barley. Grown in poorer lands where the soil is sandy and irrigation deficient barley has not been completely substituted by wheat, but ".... there is no doubt that barley has decreased in favour of wheat. The area in 1860, for barley alone, and in combi-

98 Final Settlement Report of Meerut District, 1940, p. 8.

99 Meerut : A Gazetteer, p. 45.

100 Ibid.

101 Ibid.

nation was, 58,800 acres; in 1902, only 45,580 acres were under this crop."¹⁰² If we compare the relative profitabilities of barley and wheat, the decline of barley in the face of wheat would not be surprising at all. The average cost of production of barley was Rs. 21 per acre; the average outturn amounted to 16 maunds, but sold at a mere Rs. 25.¹⁰³

The decline of barley was as in the case of Muzaffarnagar, not completely due to its substitution by wheat. Gram and peas had also emerged as fairly substantial competitors. Gram, particularly, was a dry crop and could be grown on soils suited to barley as well. Gram cost a mere Rs. 11 per acre to produce; it yielded on an average, 12 maunds per acre and the value was Rs. 30.¹⁰⁴ Given this, the expansion of gram, from covering 9.8 per cent of total cultivation in 1860 to 13.1 per cent in 1911, would hardly come as a surprise. The constant expansion of gram and peas was noted also in the settlement report.

What emerges from the above discussion on the crop-mix and changes within it in our two districts are the following. One, that wheat retained its position as the dominant rabi crop throughout the period under consideration; second, the most prominent shift that occurred, was in the kharif harvest, and that was, from lower-value foodgrains like jwar-bajra and maize to sugarcane, the crop with the highest value and profitability.

102 Ibid., p. 46.

103 Ibid.

104 Ibid., p. 45.

As for yields, Blyn's study indicates an upward, at worst, static yield trend for U.P. as a whole upto 1940, in wheat, sugarcane and rice.¹⁰⁵ Alan Hoston's argument confirms the fact that yields, even of foodgrains did not decline between the 1890's and the 1940's.¹⁰⁶ More detailed figures for our area tend to support this. If anything, productivity on double-cropped land (also necessarily irrigated), seems to have increased slightly :

TABLE 3.6

Yield/Acre : Wheat (in mds./Acre)¹⁰⁷

Area	1840	1876	1878	1892	1892-97	1903-20	1920
Mearut <u>Irrigated</u>	-	-	-	15	14.5	(15)	15
<u>Unirrigated</u>	-	8	-	10	9	-	10.5
Muzaffarnagar							
<u>Irrigated</u>	12.45	-	12.96	15	13	22/15	15
<u>Unirrigated</u>	9.14	-	9.42	10	11	-	10.5

In the light of Simon's caveat, that productivity on marginal lands and double cropped land tends to be low, even a stability in yields, indicates some degree of improvement in production techni-

105 G. Blyn, Agricultural Trends in India, 1890-1947.

106 A. Hoston, A Further Critique of Historical Yields per acre in India, IESHR, April-June, 1978.

107 Figures for 1840 and 1878 were worked out from Simon Commander, op.cit., table 2.4. Figures for 1892, 1892-97, 1902-20, were worked out from data in Agricultural Statistics of India. Figures for 1876 and 1903-04 are various estimates given in district gazetteers of the period, the quality of land being unspecified.

number of improved ploughs, issued increased." In 1906-07 again reference is made to "many agricultural implements of improved design." After this, references to improved agricultural implements become much more frequent. The steady increase in demand for "labour-saving implements" - chain pumps, improved ploughs, maize-hullers, water-lifts and tillage machinery - finds mention in almost every Report on Administration after 1906-07. The demand for these implements it would appear became even more insistent between 1920-1930. The following figures may provide some indication of the extent of this demand and the scale at which it expanded during this decade. A total of 4,262 implements were sold in 1922-23. In 1925, the number had reached 7,709. In 1927-28, 11,582 implements were sold. By 1929-30, the sale of implements had jumped to the fairly high figure of 17,760. It is remarked in the administration report for 1920-21, that the chief instrument among implements sold was an improved quality of plough. In the report for 1927-28 reference is made to the sale of 2,822 Weston ploughs.¹¹⁵ The increase in the number of ploughs is noted also by the settlement officer of Meerut, in 1940. The officer computes a 25 per cent increase in the number of ploughs in use in Meerut, between 1904-1940.¹¹⁶ He also calculates a 44 per cent increase in the number of carts in the district during the same period.¹¹⁷ This is further confirmed by figures in the

115 Annual Administration Reports, United Provinces, relevant years.

116 Final Settlement Report of Meerut District, 1940, p. 7.

117 Ibid.

census report of the United Provinces, 1931. The Census Officer comments on "a slight increase" in ploughs and a considerable increase in carts "between 1920-30."¹¹⁸

Together with the greater number of ploughs and other agricultural implements, went a substantial increase in the number of working cattle. Comparing the figures for agricultural stock for the years 1904 and 1940, the settlement officer for Meerut calculated a 20.7 per cent increase in the total number of cattle which were put at 8.2 lakh animals (excluding sheep and goats). Slightly under 30 per cent of these were bulls and bullocks used for draught purposes. If we compare the percentage expansion in ploughs, carts and cattle with the rate of growth in area under cultivation (ref. table 3.2), it would be clear that the increase in the number of ploughs etc. was certainly not due simply to the expansion in area under cultivation. There were more ploughs, more carts and more cattle per acre in our two districts in 1920 and 1940, than there were at the beginning of the twentieth century. Further the good quality of the stock is remarked upon by the settlement officer.¹¹⁹ This is equally true of Muzaffarnagar in 1921. Here the settlement officer wrote: "The stock is of a good type and sufficiently numerous to meet the demands of agriculture. The Jat loves a fine bullock as much as the Gujar, a good buffalo."¹²⁰

118 Census of India, United Provinces, 1931, p. 35.

119 Final Settlement Report of Meerut District, 1940, p. 7.

120 Final Settlement Report of Muzaffarnagar District, 1921, p. 10.

What is significant is (i) that the increase over this entire period occurred inspite of the heavy cattle mortality which struck the province as a whole during the years from 1917-19. The causes of this mortality, were severe and widespread outbreaks of cattle disease, a shortage of fodder occasioned by the failure of the 1918-19 monsoon and partly the influenza epidemic of 1918. The result was that at the time of the cattle census in 1920, the number of working cattle stood at much the same as in 1909.¹²¹ But this brings us to the second significant point : the remarkable recovery of the cattle population, after 1920. The census of 1925 showed a fair recovery. The vicissitudes of the following years resulted in a decrease, once again, in working cattle, but the cattle census of 1930, showed a remarkable improvement over that of 1920. It is noteworthy that, in the United Provinces as a whole the Indo-Gangetic plain west, was the only division which showed an increase in bulls.¹²²

The increase in the number of cattle was closely tied up with the increased facilities for treating cattle diseases in the province. Between 1902-03 and 1914-15, the number of inoculations had increased from 1,000 to 78,194, and the number of dispensaries, from 9 to 61. The number of patients treated at these dispensaries had increased from 5,438 in 1902-03 to 67,802 in 1914-15. By 1929-30, the total number of inoculations against all diseases

121 Census of India, p. 35.

122 Ibid., p. 36.

had increased to 217,839 the number of veterinary hospitals, to 165, and the total number of patients treated, to 255,728. By 1934-35, the number of veterinary hospitals had gone up further; the total number of animals treated had increased to 405,887 and the total number of animals inoculated, to 223,815.¹²³

Not only does our evidence point to an increase in the number of cattle stock, as a result primarily of declining mortality, but there is evidence as well for improvements in the quality of the cattle stock, primarily through selective breeding techniques. In the Administration Report of the United Provinces, for the year 1923-24, we find a reference for the first time to the Muthura farm which engaged in controlled breeding practices and issued bulls for use to private farmers. In the report for 1924-1925 mention is made of the Madhurikund farm which specialised in Hissar cattle, for which we are told, demand came mainly from the western districts. A constant increase is noted in the successive reports in the number of bulls issued by the different farms, after 1923-24 despite "the premium of 1/3 value and costs put on the loan of a bull." Within this increase, the increase in the number of Hissar cattle issued, was really phenomenal. The Madhurikund farm, for instance, issued a mere 46 bulls on loan in 1924-25. By 1925-29, the number had increased to 547, of which 480 were Hissar cattle.¹²⁴

123 Annual Administration Reports, relevant years.

124 Ibid.

The west Indo-gangetic plain was described by the census officer in 1911 as the "most fertile and best irrigated in the province."¹²⁵ Within the Indo-gangetic plain, "few districts; says the settlement officer in 1891, "are better supplied with artificial means of irrigation than Muzaffarnagar."¹²⁶ The general expansion in facilities for irrigation apart, the extension of irrigation by canals was perhaps, the most significant. The uplands between the Kali Nadi and the Ganges were watered by the Ganges canal - opened in 1854 - its rajbahas and distributaries. Conditions in the Hindan-Kali Doab improved considerably around the time of the famine of 1877-78, with the construction of the Deoband canal. Prior to that, this tract was largely dependent on wells for its irrigation, and given the depth of its water level as well as the nature of the substratum, the construction of both masonry and earthen wells was very difficult. As a result, the Kali-Hindan doab suffered severely in times of drought. West of the Hindan, the district was watered by the Jamuna Canal system, dating from the time of the Mughal Emperors, but considerably improved and extended since the 1830's.

The best watered, were, no doubt, the eastern tracts on the Ganges Canal System. Irrigation by wells was here relegated to watering mainly 'bara' or garden land, to groves and to outlying tracts. The Deoband canal had a somewhat similar effect, though

125 Census of India, United Provinces, 1911, p. 25.

126 Settlement Report of the Muzaffarnagar District, 1892, p. 6.

not as drastic. The worst off remained the western Hindan-Kawsuni doab where even in the most well-watered villages canal water had to be supplemented by water from wells. In all, in 1891, 64.3 per cent of the total irrigated area was irrigated by canals; only 34.1 per cent by wells.¹²⁷

In 1921 the settlement officer for Muzaffarnagar wrote that "it may safely be affirmed, that irrigation has greatly extended in the past 30 years, and that the protection is now much greater than before."¹²⁸ / Challenging the validity of the classification of irrigated land used at the previous settlement, the settlement officer in 1921, had the following results to offer :

TABLE 3.6

Area Irrigated From Canals in the Muzaffarnagar District¹²⁹

Year	Total rabi and kharif	Double cropped area	Net area irrigated
1887-88	161,578	5,985	155,593
1888-89	161,046	4,813	156,233
1889-90	207,137	14,216	192,921
1890-91	<u>184,454</u>	<u>12,340</u>	<u>172,114</u>
18 Average	<u>178,554</u>	<u>9,338</u>	<u>169,215</u>
1915-16	261,019	21,252	239,767
1916-17	237,387	17,141	220,246
1917-18	265,255	30,709	234,546
1918-19	<u>322,476</u>	<u>38,804</u>	<u>283,672</u>
Average	271,534	26,976	244,558

127 Ibid.

128 Final Settlement Report of Muzaffarnagar District, 1921, p. 10.

129 Ibid., p. 11.

The results of the above figures show that the area irrigated had increased by about 60,000 acres. This was chiefly attributable to the remodelling of the Deoband branch and of the Kalarpur distributory of the Eastern Jumna Canal.¹³⁰

Another point of significance about the canal system - apart from its extent - was the high proportion - 10/11ths which came by flow, reducing drastically, the labour bill of the farmer. This was something noted even in the settlement report of 1891. The best results as far as this is concerned, were also obtained - at least in 1891 - in the eastern region, where the proportion of lift irrigation was a mere 2.4 per cent. In the areas watered by the Jumna Canal, the proportion rose, in some parganas, like Cherthawal, Bagra and Eastern Shikarpur, to 13.0 per cent. Complaints of the reduction of working time, to four days a fortnight, were very frequent.¹³¹

Together with the extension in canal irrigation, the more reliable method of classification used in 1921, also showed an increase in the area irrigated by wells. The increase was of the order of 15,000 acres, so that the increase in total area irrigated over this 30 year period, amounted to 75,000 acres. Of the total normal irrigated area, 374,500 acres, or 52 per cent could depend, in 1921 on a reliable supply of water.¹³²

130 Ibid.

131 Settlement Report of the Muzaffarnagar District, 1892,
p. 7.

132 Final Settlement Report, Muzaffarnagar, 1921, p. 12.

✓ As in Muzaffarnagar, so also in Meerut "the mainstay of agricultural prosperity ... is ... irrigation, and the chief source is canals."¹³³ The three major canals in this district, are the Eastern Jumna Canal in the Jumna-Hindon Doab, the main Ganges Canal between the Hindon and the Kalinadi and the Anupshahar branch of the Ganges Canal in the eastern tract between the Ganges and the Kalinadi.¹³⁴ In 1807 Guthrie, Collector of the district, remarked on the scantiness of irrigation facilities in Meerut.¹³⁵ At Sir Henry Elliot's assessment in 1836, the irrigated area amounted to 232,869 acres or 27 per cent of total cultivation.¹³⁶ By the time of Forbes' settlement in 1860 the irrigated area had increased by nearly 150 per cent, the amount being 580,005 acres. "These figures, "we are told in the gazetteer, "must be received with caution; yet the fact of the increase cannot be doubted."¹³⁷ In Sir Henry Elliot's time the Ganges Canal had not been even surveyed and the full benefits of the Eastern Jumna Canal had not yet been felt. Hence, in 1880, the increase of irrigation during the preceding twentyfive years had been greatest in those parcenas which lay along the Eastern Jumna Canal. By the time of the next settlement the recorded

133 Final Settlement Report of Meerut District, 1940, p. 9.

134 Ibid.

135 Meerut: A Gazetteer, p. 47.

136 Ibid.

137 Ibid.

irrigated area was 607,647 acres or nearly 60 per cent of total cultivation.¹³⁸ Of this, 379,190 acres or over 60 per cent were irrigated from canals, 38 per cent from wells and a little more than 1 per cent by other sources.¹³⁹ (Between this settlement and the final settlement of district Meerut,¹⁴⁰ in 1940, canal irrigation had increased ~~by a further 10.6 per cent or 40,000 acres,~~ to a total of 4.19 lakh acres.¹⁴⁰ The following figures show the total increase in area irrigated as well as the relative increase in canal and well-irrigated land between the final settlement of Meerut district and the settlement prior to that :

TABLE 3.7

Increase in Area Under Irrigation¹⁴¹

	Last settle- ment (acres)	Now (acres)	Incr. av. decv. (acres)	% of net to culti- vated area now
Canals	378,392	418,536	+ 40,194	39.6
Wells	221,841	205,100	- 16,741	19.4
Other sources	6,860	15,748	+ 8,888	1.5
Total :	607,093	639,429	32,336	60.5

138 Ibid., p. 48.

139 Ibid.

140 Final Settlement Report, Meerut, 1940, p. 9.

141 Ibid.

Similar to the advantages in Muzaffarnagar, in Meerut too, 80 per cent of canal irrigation was by flow, rather than by lift.¹⁴²

As for wells, the number of masonry wells shows an increase, even in areas already irrigated by canals. Here they serve to supplement irrigation by canals. It is significant, that, of the 7,887 new wells constructed between 1900 and 1940, no less than 6,549 or 83 per cent were in the main upland area excluding the 'bhur' and 'khadir' tracts, and of these, 2,534 or 32 per cent were in the canal cricles.¹⁴³ Even in those areas such as parsons, Barnawa, where well irrigation was the major source of irrigation, tube-wells had begun to replace ordinary wells by the 1930's. In fact, it is the increase in tube-wells which accounted for the increase in the area - to 16,000 acres - irrigated by other sources.¹⁴⁴ At the settlement previous to the last one, this had measured 7,000 acres. The settlement officer warned in 1940 that the increase in area in 1940 was not due to an increase in irrigation by tanks and streams, but mainly because of tube-wells.

Thus over the entire period under discussion, the bulk of the expansion in irrigation was accounted for by canals. We may now see what the implications of this would be for agriculture in the two district. "The construction of the Ganges Canal, writes

142 Ibid.

143 Ibid., p. 10.

144 Ibid.

the gazetteer for Muzaffarnagar, "resulted in the ample provision of water to a tract, in which owing to the prevalence of sand irrigation was, in former times practically unknown... The main portion of the area now watered by the canal had few wells and no tanks or other reservoirs for water ... In addition to the practical prevention of the occurrence of famines in seasons of drought, the canal has had a marked influence in promoting the cultivation of trees ... The industrious classes have been enabled to improve their style of cultivation and to extend the areas of the best crops ... The extension of high cultivation, the increasing certainty of a fair return in agriculture, and the reclamation of many idle classes, are among the benefits due to the canal ..."¹⁴⁵

The gazetteer for Meerut, writes in a similar vein : "the extension of the canal system has caused an enormous improvement in agriculture, one of the most important effects being the improved facilities for growing the more valuable staples. The areas under cane and maize always increase when canal water is introduced ... Moreover the canals have rendered the district practically secure from all effects of droughts, and in dry years they are greatly superior to wells. The canal ensures a steadiness in the outturn, which is perhaps the principal cause of the prosperity of the district..."¹⁴⁶

145 Muzaffarnagar : A Gazetteer, pp. 44-5.

146 Meerut : A Gazetteer, p. 48.

No doubt, irrigation by canals had also its disadvantages, the most important among those, being "the damage done to health and to the soil by the over-saturation of the country, and the rise of the water - level caused by obstructed drainage," for instance, in parganas Purchhapar and Muzaffarnagar, in Muzaffarnagar district.¹⁴⁷ Elizabeth Whitcombe has dealt exhaustively with the damage done by canal irrigation to agriculture in the North-Western Provinces.¹⁴⁸ While not ignoring the ill-effects of irrigation, we feel, however, that Whitcombe's case on damages alone is slightly over-stated. The point is, that while ruining agriculture and sectors of the peasantry, on the one hand, increased facilities for irrigation, permitted at the same time, the consolidation of a more prosperous section of the peasantry, able to invest in improvements and make the most important change within the crop-mix - the shift to sugarcane.

At the end of this chapter on production, the picture that emerges, is certainly not one of complete economic stagnation. The dynamism within the agrarian economies of Muzaffarnagar and Meerut would be evident from the following changes taking place during the course of our period of study. These changes we have noted in this chapter. We may now summarise them thus :

- (a) an extremely slow process of expansion in area under cultivation;

147 Muzaffarnagar : A Gazetteer, p. 45.

148 E. Whitcombe, Agrarian Conditions in Northern India.

- (b) a tremendous increase in area double cropped;
- (c) wheat remains the most important rabi crop, though gram and peas expand substantially. Within the kharif, the most important shift takes place in favour of sugarcane, an extremely lucrative commercial crop;
- (d) yields are at most static, but not declining at least for wheat and sugarcane. That perhaps is the reason why the expansion in acreage in either of these crops is not as drastic as say, in the case of gram. In the latter case, evidence points to declining yields;
- (e) no revolution in techniques of production but significant improvements, nonetheless; and
- (f) a tremendous expansion in the area under irrigation.

Given these changes, production, it seemed, now contained within itself, the potential for a substantial break through at a later point in time.

CONCLUSION

The major thrust of our entire study has been to locate long-term movements in population, prices, wages, rents, revenue and credit; and consider their impact on production. Our conclusion is, that these long-term movements in the economy, together constituted, conditions favourable to growth in agrarian production, that, in fact, side by side with the impoverishment of the agrarian economy and the increasing pauperisation of the peasantry there occurred also improvements in production techniques, an expansion in commercial cropping, an extension of facilities for irrigation etc. (In short, what the agrarian economies of Muzaffarnagar and Meerut witnessed over the late nineteenth and early twentieth centuries was a process of differential accumulation.)

Chapter I was an analysis of (trends in population, prices and wages.) We noted a secular (upward tendency in the movement of population between 1870-1940 for both districts. Within this) general movement, there were two other marked phenomena. One was, that (the period between 1870-1920 was one in which the demographic cycle was subject to fairly violent fluctuations which disappeared completely in the decades following 1920.) In fact, the expansion in population in the years following 1920 was not only unbroken;

it was unprecedented in scale. Secondly, (even in the years between 1870-1920, when population fluctuated violently, death,) the primary cause of these fluctuations, (was coming to be determined less by starvation from famine, more by disease.) These two phenomena within the demographic cycle, we felt, could not be explained solely in terms of improved health care facilities or improved communications. They were indicative of much more fundamental changes (at the level of agrarian production.) Having tackled the demographic cycle, we moved on to analyse the trends in the movement of (prices between 1870-1940.) Here we found a secular (upward movement in prices after the mid-nineteenth century, if not earlier, the latter half of the nineteenth century was also the time when fluctuations in price between good and bad harvest years become much less intense. There also occurred an equalisation of prices between the two districts in the north-west region of the United Provinces. All these characteristics of the price movement when considered together, represented, we argued, a major break with the price cycles of a pre-capitalist economy,) tied up as they were very directly, with fluctuations in the harvest; and (the lack of uniformity in price levels between different regions. We (explained this change in the nature of the long-term movement in prices as a result primarily, of the integration of India into the international commodity market. Expansion in trade, an immense extension in the network of communications and the rise of new towns, primarily as commercial centres, in both

Meerut and Muzaffarnagar, were integral parts of the process whereby the Indian agrarian economy was linked up to the international capitalist system.)

(The demographic cycle as well as the movement in prices had a bearing on the long-term movement in wages. Together they exerted a pressure on wages to move upwards, and wages did, in fact move upwards faster than did prices. The demographic crises of the late nineteenth and early twentieth centuries cannot by themselves explain the tendency, in our period, for wages to rise, because this upward movement in wages continues even after 1920, when demographic crises themselves, declined. Perhaps the rise in prices over this period was responsible for the rise in wages,) and in more ways than one. (First, the price rise probably rendered the employment of hired labour profitable even at fairly high wage rates. Secondly, the rise in prices, the facilities for trading etc. seems to have rendered small-scale cultivation on a peasant farm with family labour, possible and sustainable. Not only did this retard the process of proletarianisation, but even those who were earlier day-labourers often bought up small plots of land which they found fairly profitable to cultivate with their own and their family's labour. This resulted, inevitably in a shortage of labour, thereby pushing up wages.)

(The price-rise pushed up not only wages. It allowed for a substantial rise in rents and revenue as well.) In Chapter II we take up a discussion of movements in rents, revenue and credit.

(Both revenue and rents in our two districts went up in absolute terms, over our period of study. But unlike wages, revenue and rents did not rise as much as prices did. Moreover, the rise in the rates of rent of occupancy tenants was much less than the rise in the rents of non-occupancy tenants. Even in the case of non-occupancy tenants,) however, while it is true that a large section were subject to fairly vicious rack-renting, (in some cases, it is possible to see the high rates of competition rents as reflecting simply the superior productivity of the holding. This would suggest, that on non-occupancy holdings, a new structure of rent was evolving, very different from either occupancy or rack-rents. The levels of rent in the latter cases, were determined politically, by the balance of class forces, to a large extent autonomous of the level of production. As a contrast to this, competitive rents, were, in this region, coming to be determined by the level of productivity.) With the establishment of the primacy of production in its determination, the basis was set for the eventual formation of rent as a residual category. The decline of rents in kind over our period was indicative of the same tendency.

Hand in hand with rising prices, rising rents and rising revenues, went an (expansion in the volume of credit and indebtedness in the countryside. The bulk of the loans to agriculturists

were supplied, throughout our period, by the village) moneylender a ('sahukar', at various rates of interest, though co-operative societies and 'taqavi' had made their appearance.) Loans were advanced for purposes of subsistence;) the interesting thing is, however, that a very large proportion of loans were advanced (for) purposes of carrying out (social obligations and performing religious ceremonies; a smaller proportion were even advanced for productive purposes and for trade and marketing. This is important because it suggests that things were not completely stagnant at the level of production, that the expansion of credit did not reflect simply the object need of impoverished agriculturists, but equally much the needs of agriculturists seeking to expand their scale of production and secure complete control over what they produced. Credit in the latter case was necessary,) but it did not result in the de-peasantisation of the agriculturist; (it was) on the contrary (an essential condition that helped the peasant secure a greater control over his own production. Seen in this light an expansion in the credit network, even at usurious rates of interest, was not necessarily a bad thing for the agrarian economy. It could, in fact, prove to be an essential condition for an expanding agriculture.)

And that, in fact, is how it seems, things were. For, if we move on to our third chapter, we can notice the following significant changes within production :

- (a) (an extremely slow process of expansion in area under cultivation;
- (b) a tremendous increase in area double-cropped;

- (c) wheat remained the most important rabi crop though gram and peas expanded substantially. Within the kharif, the most important shift took place in favour of sugarcane, an extremely lucrative commercial crop;
- (d) yields were at most static, but not declining, at least for wheat and sugarcane;
- (e) there was no revolution in the techniques of production but significant improvements, nonetheless; and
- (f) a massive extension of the area under irrigation.

Clearly, movements in prices, rents, revenue and credit had created conditions within which investing in production and improving agriculture proved to be a fair attraction to the agriculturist in Meerut and Muzaffarnagar between 1870-1920; and this despite the high wage-rates that prevailed throughout this period.) We have already seen (what lay at the root of the long-term wage-rise: the consolidation of small peasant agriculture based on peasant family labour. However, the very fact of the consolidation) of small peasant agriculture (meant, that the bulk of the agriculturists would not be affected by high wage-rates. For those among the producers who did need to employ hired labour, however, the consolidation of small peasant farming created a labour shortage) and intensified competition for labour, (thereby pushing up wages and rendering it unprofitable to go in for a very great expansion in production. Perhaps, there, it was the small peasant employing mainly family labour rather than very large farmers who constituted

the basis of the changes in production) discussed in chapter III. This, however, brings us to the question of agrarian class structure, a problem that we will take up extensively in a subsequent work.

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