UNIVERSITY OF BOMBAY
DEPARTMENT OF ECONOMICS

FARMERS AND RULERS
STATE INTERVENTION IN THE 19TH CENTURY DECCAN COUNTRY SIDE

BY

NEERAJ HATEKAR

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Introduction.

After the British conquest of the Deccan, the new government was faced with the task of working out a viable land revenue system. Robert Keith Pringle who was a student of Malthus, tried to apply Ricardian theory of rent to several villages. The experiment was by and large a failure. This paper is an attempt to analyse Pringle's experiment and understand the causes of its failure.
gBiGtiqn 1 deals with the evolution of the general offical point of view which favoured a land revenue system based on Ricardian principles. Section 2 taken a detailed look at Pringle'a experiment in the DeCcan. Section 3 takes account of some of the conventional causes advanced for the failure of the experiment and advances a new explanation.lt is shown that the misclassification of land which resulted aftar Pringle's survey really reflected the successful attempt by ruff), cultivators to pieasrve their informational advantage over the colonial state and was not related to dissolution of collective responsibility as is claimed by Ravinder Kumar (Ravinder Kumar, 1968). The effect was further enhanced by art agricultural price depression linked to declining rural incomes. The decline in rural incomes was a direct result of the land revenue policies of the new government.lt is further claimed that one of the long term effects of colonialism was to erode the opportunities available to the rural populace when confronted with a high level of land revenue demand. An understanding of the changing relationship of the state vis-a-vis rural cultivators can provide a new understanding pf the impact of colonialism on the rural economy.

SECTION 1,

The vast areas of the Deccan finally came under direct East India Company rule in 1818. During his rule, Peshwa Bajirao II had carried to an excess the policy of assigning revenue farms by auction to the highest bidder. Generally, the revenue farmers selected were not men of proven ability, but court favorites or friends of influential noblemen.The. resulting rapacity of the revenue farmers led to concealment and in many cases complete obliteration of old revenue records by village Patila and other functionaries. (See revenue Commissioner William Chaplin's letter to Francis Warden, August 1822 ,Bom.Arch Rev.Dept 16/68 of 1823). As a consequence, the new government had very little information about revenue practices of the older regime. Since land revenue was the mainstay of the state treasury, it naturally occupied the center of attention. In the earliest years of the conquest, conservative administrators like Elphinstone shied away from introducing drastic innovations. Hence, in the initial years, from 1818 to 1825,land revenue policies were mainly pragmatic and concentrated on minimizing expenditure rather than trying out new methods of revenue management.

However, to the European mind, the lack of uniformity, coupled with seeming arbitrariness of unwritten tradition seemed to indicate complete confusion. Two issues needed to be addressed.One was to establish the relationship of the state vis a vis the cultivators. The second was to decide on an operational level the amount of agricultural produce that could be taken as land revenue. As things stood, there was a mind boggling variety of land revenue practices and land measures. Land ownership too took several distinct institutional forms. Furthermore, in several regions, land revenue records had disappeared completely because of the chaos during Baji Rao II *'a* reign. To be able to appreciate more fully the prevalent mood on this issue, it is necessary to look into the discussions and experiments that were being carried out over the rest of the country. During the first decade of the 19th century, the system of Cornwallis in Bengal and the Ryotwari system of Munroe in Madras stood as two alternatives. In spite of their great differences, the two systems shared some themes, as shown by Stokes.(Stokes ,1959). Both the systems abandoned the native tradition. "Greatly decayed by years of anarchy, its uncertainty and irregularity afforded scope for grossest corruption and oppression, with a resulting decline in cultivation and serious damage to the revenue resources of the state" (Stokes, 1959). The Indian tradition had by and large been unwritten, and land revenue rights were thought to be only precariously defined. The modern British mind could not accept such a state of affairs. The only sure way to mark off public rights from private ones was to have a formal legal system, which would be binding on the state as well as on the other citizens, unlike the native informal law. Absolute surety of landed property could be guaranteed only if the state demand was fixed once and for all. This was the thinking behind Cornwallis's permanent settlement in Bengal.Cornwallis simply froze the land revenue demand of the state at its 1793 value, and allowed the Zamindars, whom he recognized as private proprietors, to derive a net profit by opening up hitherto waste lands. This, it was thought, would enable the development of property rights in land, by making landed property saleable. The general belief among the administration was that landed property had lost market value through exactions of the native tyrants.For instance, referring to the Deccan, the revenue Commissioner William Chaplin wrote in 1823 " The sale of Miras lands, when it does occur, does not fetch much money except where it has been greatly improved. The circumstances of its being so little a marketable commodity , notwithstanding the many advantages of the tenure, proves that the assessment is usually so high as to leave but a small residue to the proprietor" (Chaplin's letter to Francis Warden, August 21, 1822 Bom. Arch. Rev. Dept 16/68 of 1823). In general, the belief in the absence of markets for land seems to have been a major feature of the early land revenue administration of the British.

Munroe, in the Madras presidency, was moved by similar considerations. He did not differ from Cornwallis over the

institution of private property in land.Munroe was opposed to the formal declaration of the permanence of assessment. He did not see why the state should renounce its revenue rights over waste lands in the fashion of Cornwallis. In settling with each individual ryot, Munroe committed the administration to the gigantic task of assessing and collecting the state revenue demand from each individual field. More particularly, since no waste lands were granted, the state had to determine the principle on which the ryot would be left with a reward to assure him private rent and saleability to his land. Munroe, not wishing to depart too much from existing practice, took as his criterion the rule of good native administration to take l/3rd of the gross produce. In his settlement of the ceded districts of Madras, from 1800 to 1807, he tried to exact from each individual field, a sum that he thought represented l/3rd of the gross produce.

Munroe's system caught the fancy of Metcalf, Malcolm and M. Elphinstone, who were to play a large part in the new revenue administration of the East India Company territories. On the other hand, Cornwallis's system was increasingly winning support from the British mercantile community. Munroea' system in its actual applications had to have a great degree of official interference, because of the discretion that each field, with its special circumstances had to have. Moreover Munroe's revenue arrangements had to be renegotiated every year. Consequently, the ryotwari revenue was extremely fluctuating. This was thought to hinder private property rights and hence the eventual establishment of the capitalist mode of development in India. However, the mighty James Mill threw his weight on the side of Cornwallis's opponents. Mill questioned the entire exercise of creating private property rights in land by limiting the state's demand of the share of the produce. He proposed that the state should be the sole landlord and each tenant should hold land directly from the state . Mill believed that in "primitive countries" land was always the property of the sovereign. He supported his conjecture from evidence relating to Egypt, Persia and the Ottoman dominions, Java and China. From that he concluded " To those who contemplate the prevalence of this institution, among nations contiguous to the Hindus, and resembling them in the state of civilization, it cannot appear surprising that among them too, the sovereign was the lord of the soil. The fact is indeed, very forcibly implied in many of the ancient laws and institutions. " (Mill, 1968,vol 1 and 2). Mill goes on to quote from the ordinances of Manu and certain engravings, vagynawalkya and other ancient custom. He also cites some contemporary examples of sharing of the produce between the government and the cultivator and concludes "From these facts only one conclusion can be drawn, that the property of the soil resided in the sovereign; for if it did not reside in him, it will be impossible to show to whom it belonged. The cultivators were left a bare compensation , often not so much as a bare compensation, for the labor and cost of

cultivation; they got the benefit of their labor; all the benefit of the land went to the king." (Mill, 1968). Mill, by his own admission, did not have any first hand knowledge of India. Neither did he know a single Indian language. These factors could have led to his being unaware of numerous contemporary local documents in the Deccan, pointing to an exactly opposite conclusion.

Nevertheless, Mill's authority carried a great deal of weight. Apart from that, the conjecture that he advocated suited the interests of the colonial powers admirably. In fact, many early revenue administrators believed that in the Deccan, land had always belonged to the state which' was the supreme landlord. Even in the face of great deal of empirical evidence to the contrary, administrators like Chaplin invoked laws of the manusmruti to establish this conclusion.(See Chaplin's letter to Francis Warden Aug, 1822 Bom. Arch. Rev. Dept 16/68 of 1823). Chaplin had a great advantage over Mill in that he was actually in India and had obviously seen several letters and reports by European officials, apart from native testimony about private ownership of land in the Deccan. In spite of that, Chaplin insisted that all land in the Deccan had belonged unconditionally to the sovereign.This belief in the supreme landlordship of the state was the other major feature of the early land revenue administration.

Given that the state has the supreme ownership of land, the Cornwallis system automatically stood condemned. In fact, James Mill thought that the relation of the state with the cultivators could be based exclusively on the law of rent, which he viewed as having the utmost significance for India. The East India company had already employed Malthus to teach political economy to its new recruits. James Mill touched upon the implications of the theory for India in his History. (Mill 1968, vol 1). Mill used the theory to advocate that the state as the landlord could take away the entire surplus produce.

In fact, Mill went on to show that such a policy could be peculiarly suited to India . " Nine-tenths probably of the land revenue of the Government of India is derived from the rent of land, never appropriated to individuals, and always considered to be the property of government; and to me that appears to be one of the most fortunate circumstances that can occur in any country because in consequence of this the wants of the state are supplied really and truly without taxation. As far as this source goes the people of the country remain untaxed. The wants of government are satisfied without any drain either upon the produce of any man's labor , or the produce of any man's capital" (Mill, 1968).

This led Mill to advocate the ryotwari system, where the state would contract with each individual farmer. He rejected any permanent limitation of the state's demand on land. "Mill's plan for India was for the state to be the sole landlord, with the immediate cultivators as its tenants. The state would grant leases for twenty or thirty years to provide sufficient incentive and security for investment of capital; but it was its right and duty to revise its

assessment on the renewal of the leases so as to appropriate the unearned rental increment". (Stokes, 1959).

Section 2.

Immediately after the conquest of the Deccan, the official mood favored ryotwari settlements because of the reasons outlined in section 1. However, the existing land revenue practices were highly diverse even within the Deccan. Appendix 1 gives the diversity in the beega (the basic unit for land measurement) prevalent in Khandesh, which was one of the districts of the newly conquered territory. Again, in the Poona collectorate, the kutcha and the pukka beega were the basic units of measurement. Apart from the kutcha and the pukka beega, there were the chawar, the rookka, the tukka, the khundee, and the nun. However, even within these units, local variations were great. The latter units were generally supposed to be multiples of the beega. The pukka or the large beega was generally supposed to be equal to three ordinary beegas ,but sometimes it could contain four or sometimes even fifteen kutcha beegas. The chawar was supposed to be equal to 120 ordinary beegas. The rooka was ten beegas, though in some villages it did not exceed eight beegas, while in some others it was as low as five beegas. One khandy was supposed to contain twenty to thirty beegas. However, in some villages, a khandy would constitute two hundred beegas. In Ahamadnagar, four beegas each constituted a purtan, and thirty such purtans constituted a chawar. In some places, twenty purtana *of four* beegas *formed a doree of* eighty beegas. However, it could also have one hundred and twenty beegas when the purtan was reckoned at six beegas. (Chaplin's letter t Francis Warden of August 1822, Bom. Arch. Rev. Dept. 16/68 of 1824). To add to this confusion, there was very little information on earlier land revenue assessment practices. In the past, various settlements called the Kamal settlements had been carried out by the Maratha administration. These settlements consisted of an exercise in measuring lands under different villages and determining the amount of taxable capacity of the village. Apart from the kamal rates, in some places there were also the tankha rates determined during Malik Ambar's administration. However, these rates were not always the ones that were actually collected. As far as the kamal rates were concerned, the British administrators had not even been able to settle on the exact meaning of the rates. Pringle (who was then the assistant collector of Poona) felt that they referred to that actual possible collection from the village. (Pringle's letter to H.D. Robertson, 20th November 1823, Bom. Arch Rev Dept. 10/94 of 1824) .Robertson (the then collector of Poona) claimed that they only referred to the maximum taxable capacity of the village and were in no way indicative of how much the village actually paid in the past. (Robertson to Pringle, 22nd Dec 1823, Bom. Arch. Rev. Dept . 10/94 of 1824) .Some others like the revenue commissioner of the Deccan, William Chaplin believed that the referred to the highest ever collection from the village. (Chaplin to Francis Warden, Bom. Arch. Rev. Dept. 16/68 of 1823).In any case, the

actual rates that had been paid were different from the Kamal rates and were known as the rivaj rates. These rates had been wiped off during the chaotic reign of Bajirao II. During that Icing's rule, the exactions of revenue farmers had led the village functionaries to deliberately conceal or even destroy older documents, so that the precise resources of the village would not be known to the revenue farmer. The tankha rates on the other hand, were quite old, but were based on a fixed division of produce, the state taking l/3rd. Such a limitation of the government share was of course no longer conceivable.

Therefore, everyone agreed in principle that a new survey and settlement on ryotwari basis needed to be carried out.The complexities of the undertaking were realised by the officialdom. Chaplin pointed out that the current state of affairs would probably be preferable to a survey badly carried out.(Chaplin's letter to Francis Warden of Aug 1822, Bom. Arch Rev. Dept 16/68 of 1823).

Around this time, Robert Keith Pringle , the young Ricardian was appointed as the assistant revenue collector of Poona. Pringle had come under the influence of Malthus at Haileybury. Pringle suggested that a fresh ryotwari survey should be undertaken so that the net produce of each farm could be made the basis of taxation. The suggestion was so revolutionary that more experienced men like Robertson, then the Collector of Poona warned against it. It is worthwhile to consider in detail the exchange between Robertson, who was the collector of Poona, and Pringle, who was his assistant, put in charge of the pargannas of Pabal and Shivneri. Pringle, in his letter dated 20th November, 1823, (Pringle's letter to H.D. Robertson, Bom. Arch. Rev. Dept . 10/94 of 1824). explains the kamal survey carried out in the parganas under his charge by the maratha administration. "The supposed ground work of the present rates in the Shivner and Pabal talooka was the kamal survey executed between the fuslee years 1269 and 1273 (a.d. 1760-61 to a.d.1763-64) . About this period, as you are well aware, a general measurement and classification of the lands appears to have been undertaken in all or the greater number of villages in these districts-the standard to which the measurement was adopted was a beega containing about 2,400 square cubits, and the lands were classified under six different descriptions:- bagayet or land watered by water courses,malley or lands watered by wells, and four classes of zirayet or dry lands. The assessment on bagayet land varied in different villages, but that on malley and the four classes of zerayet lands was uniformly fixed , in every village at the respective rates of rs 3, rs 2, re.1.25, and 12 annas. The amount of the whole land of the village (with the exception of what was rent free) assessed at these rates, together with the sewaee jamas, one to cover the district charges of collection, and one for gaon khurch, formed the land rent, which with the sewaee jamma derived from mofturfa, baloota and mahar's hudola, made up the total kamal rent of the village."

Pringle pointed out in the letter that land revenue was

never collected according to this simple arrangement.In its place were substituted more complex arrangements with substantial local variation. The assistant collector claimed that this was "more probably, however, to enable the Patels and heads of villages , under a system of management understood only to themselves , to continue in the enjoyment of advantages which the equalization of the new assessment would have deprived them of". The government only ascertained the total amount of exigible resources and left the internal management of the details entirely in the hands of the villagers. Over time, the kamal settlement remained only on paper, and the revenue arrangements of each village began to be governed by its own particular custom. The local variations notwithstanding, Pringle saw some uniformity in the then existing revenue practices. Generally, in a year in which the village was completely cultivated , and all the lands held on the sostee or the highest tenure, and it was therefore considered capable of yielding the full kamal. That rental was applied to the number of chawars, tukkas, or whatever was the standard in use in the village (with the exception of rent free land and those watered by channels, which were assessed separately) and an average was struck which gave an equal rate of assessment throughout on the same nominal quantity of land without any reference to quality. He felt that this practice would make the rates most unequal, except on one of the following two suppositions, either that the quantity of land contained in each chawar or tukka , though nominally the same, did in reality vary according to quality, or that the quantity of land being the same, the balance was preserved by allotting to each individual an equal share of good, bad and indifferent lands. The second possibility, Pringle felt was too remote in the face of continuous subdivision of lands. The first possibility would have retained the principle of the kamal settlement, though in a form much more confused and complex. "The ryot would still pay a rate proportional to the soil he occupied and he could have had no object in throwing up the worst parts of his estates, for although he apparently was paying the same price for them as for the best, yet in fact he got a greater quantity of land for his money in the former case than the latter."

Pringle felt that inequalities in the land revenue burden were artificially maintained by village notables, who possessed some of the best lands in the village and hence had an incentive to maintain the inequality. Pringle presented the sthalwar (native Indian land record)of the village Osadee khurd to substantiate his claim. The relevant data are presented here as appendix 2. The conclusion which Pringle drew from these data is the following " In the fields, which are rarely subject to change in name and size, it may be shown that the lands which contain the same number of village (rivaj) tukkas and chawars, and are therefore according to the village system assessed at the same rate , would by the kamal rental, where they are rated according to their respective qualities, pay very different amounts, and

consequently that the first supposition, that the assessment is equalized by regulating the quantity contained in the village measurement according to its quality is untrue". For the purpose of understanding later events more fully, it is important to evaluate Pringle's argument in detail. From appendix 2 it can be seen that the village (rivaj) beega was not necessarily a unit of standard geographical area. On the other hand, the kamal beega was a standard unit. There was no simple relation between the village (rivaj) and the kamal beega. Pringle's argument is correct only if it can be demonstrated that the correlation of the village beega with the quality of land was strictly non negative. If the village beega varies inversely with the quality of land, land of higher quality would be shown to contain more beegas than a lower quality land of equal geographical size. Hence, given a fixed rate village beega, lands of higher quality will pay more than lower quality lands of the same geographical size. Pringle's data give the geographical quantity of lands contained in each of the four categories according to the kamal beega. The four categories refer to lands of differing fertility and the money assessments in each. I have assumed that the relative money assessments also reflect the relative fertility differential (i .e land taxed at rupees two per beega is assumed to be twice as fertile as land taxed at rs.l per beega). A productivity index was then computed for each field by taking the land in each category, and weighting it with a number which was the money assessment for that particular field divided by the sum of money assessments. A second magnitude was then computed. This referred to the total area for each field in village beegas divided by the geographical area of the same field as measured in the kamal beegas. This generated a series for the size of the village beega in terms of the standard beega for each field. The sign of the rank correlation coefficient will indicate whether Pringle's claim was correct. If the sign is negative, it would mean that for more productive fields, the rivaj beega relative to the kamal beega is smaller. This would in turn mean that more productive fields would be shown as larger geographical areas compared to the less productive ones, and hence would carry a greater per beega tax burden. On testing, the partial correlation coefficient was found to be -0.3579678. The rank correlation would perhaps be more relevant. The spearman'* rank correlation coefficient was equal to -0.508903. An OLS regression was run where LRATIO{ the logarithm of ratio of rivaj beega to the kamal beega) was the dependent variable and LPROD (logarithm of weighted index of productivity) was the independent variable, with the following result:

LRATIO - 1.2603 - 0.2765 LPROD 1) (10.061) (-4.2805)

$\bar{R}^2$ = 0.2263

DW - 1.9157

The coefficient on LPROD ia negative and significant. This coefficient then indicates that for every one percent

increase in productivity, the ratio declines by 0.2765 percentage points. Thus, village rivaj beega was a flexible unit, changing to equate the tax burden, though only

imperfectly. The R on this equation ia also fairly low, indicating that only 22% of the variation in the ratio is explained by productivity. The fact that the elasticity here is less than one is going to be important for later analysis.At present, it is sufficient to note that the size of the village beega vis a vis the kamal beega varied to offset productivity differential, though only partially.

As we saw above, Pringle's conclusion in his letter of 20th November was only partially correct-. This notwithstanding , Pringle concluded that there was an excess profit in the hands of holders of more fertile soils, (thereby he meant village notables) which could be taxed by using a net produce rule. "This inequality, by creating an artificial monopoly in favor of the best soils, which yield the greatest net produce must tend to restrict the extension of cultivation to less favorably circumstanced lands, and check production, and would thus take more from the body of the people than what it would bring into the treasury. The net produce being, then, the only accurate standard of valuation, in proportion as the assessment is regulated by it, would the burden be distributed in the manner most favorable to the general wealth and prosperity of the country " (Rogers 1892). The system that Pringle devised and implemented in Indapur is a tribute to Pringle's attention to theoretical correctness. Pringle's object was to class all soils as nearly as possible according to their net produce: that is, that portion of the whole money value of the average gross produce which remains after deducting the whole cost of tillage and other accompanying charges. Pringle appointed assessors who collected information from individual farmers. Pringle's method of classification was to arrange the soils in nine classes in dry crops and three to four in garden crop and rice lands. When there were more than one class in a field, the average was taken, so that each field fell into a unique class. The classification was to be done with the advice and the assistance of the ryots , whose local knowledge made them the best judges of the capabilities of the soils, while the assessor availed himself of his experience in other villages to guard against unfairness on the part of ryots.

After the classification was complete, the assessor was required to determine, from the evidence of the most experienced and intelligent ryots, the nature of the crops usually grown in each class, the most approved course of rotation, the average amount of produce in ordinary years, and the several items of expenditure incurred according to the usual system of cultivation adopted by ryots in normal circumstances , from the time of ploughing to that of selling the produce. In tracing the details of each of these, it was ordered that no circumstance, however trivial, but that might be relevant be omitted. The evidence as to the produce was verified by actually examining crops in different classes of

soil, and by comparison with similar Experiments in Other villages. This grain was converted into money at the a merage of twenty years of prices taken from the books of grain dealers, either in the village itself or at the n eareat market, and if the latter was at any considerable distance, an allowance was made for the cont of transport.

In fixing these averages, care was taken to procure them for all the villages for the same year and months, and ensure the use of uniform weights and measures. In computing the expense of cultivation, the number of bullocks required for the plough in each description of soil in a given quantity of land was to be ascertained by an estimate of their daily work, and an annual charge per acre was computed by an estimate of the cost of their food, their ordinary purchase price in the neighboring markets, and a fair interest on such costs, the number of years for which they general!' f lasted and insurance against casualties. Similarly, the coat of manual labor was determined, with reference to the current village rates in case of hired labor. The cost of seed and manure, of implements, teas to artisans and village officers, sacrifices and other offerings, and every item of labor and stock that could possibly form an item in the cost of production before taking the produce to the market, was added with customary rate of interest on tolerable security on all advances from which a return was not immediate. A fair allowance was also directed to be made for insurance. These particulars were recorded for every class of soil. The difference between the money value of the gross produce and the expense of cultivation obtained in each case formed the basis on which the power of paying assessment could be calculated in money terms for each class of soil.

When the measure of relative assessment was determined, the next step was to fix the actual assessment. This actual assessment was fixed on the basis of past collections. Th.$ assessor secured the revenue accounts of the village for as many years as possible and ascertained the area of assessable land in beegas or other local measures , which was cultivated in each year , and the amount of money collected on it. As the local measures varied in area in almost every field, the next step was to turn them into acres. The local measures were turned into acres by using local accounts where accounts, stating the names of fields where available. Wherever the old accounts did not give the name of the fields (as was very often the case), only an approximate estimate of the area could be made. This was done by assuming that in any given year, preference would be given in cultivation to the better classes of land, and the average ratio of beegas to acre in each class having been ascertained by the survey, the number of beegas cultivated in each year was converted into acres in that proportion beginning with the highest class, and descending through the other classes until the whole recorded area was accounted for. All cesses and fees , except those of balotedars already accounted for, were included in the assessment.

When the number of acres cultivated in each year and the

amount of assessment were ascertained, the quality of Land under tillage had to be determined. In former assessments, the necessity of ascertaining the quality of land had been entirely overlooked. In the past the average of past collections had been taken as the guide for the future, though it was obvious that the rate levied from the cultivated portion which was the best in the village, could not be applied to the poorer classes of soil. In order to avoid this mistake, the cultivated land in each year was arranged in the classes fixed by the survey where it was possible, or where that was not possible, by assuming that preference would be given to the best class of land in cultivation. When the whole land was so arranged, it was added. Clearly, since all land was not homogeneous, the summing was carried out by weighting each class of land by its average produce relative to that on the best land.(e.g where there were twenty acres of the second class cultivated and the net acre produce in the class was about half of the first class, the twenty acres were rated in the estimate as ten acres). The number of acres cultivated in each year being thus estimated in land of the best quality, their sum divided by the recorded amount of collections, gave the acre rate in such lands for that year and the average rate for the whole series of years was the rate of assessment on the best land in the village as fixed from past collections. Then this rate was adjusted to each of the inferior classes of land in proportion to its net produce, and it showed the rates for these classes with reference to the same data.

At this stage, the assessors finished their job, and handed their work over to the head assessor.The effect of the assessor's operations was , in proportion to their[1] net produce, to distribute over the whole lands of each village , the average amount of its former payments. The head assessor was supposed to cross check the data, and hear complaints of ryots if any. Whenever there was a suspicion of any inconsistency, the error had to be traced to its source and the inconsistency either rectified or explained. The work was then confirmed by the head assessor. After confirmation, the head assessor combined the returns for various villages and generalized them for the purpose of equalizing the rates of assessments in different villages. The average proportion of the assessment to net produce was then fixed for the district as a whole.This average rate was then applied to all the lands in all the villages in that district, to equalize the rate of assessment in different villages.In the operation of equalizing the assessment, the head assessor performed for the villages as a group the service that the assessor had performed for the fields in each village. He distributed among them, in proportion to their net produce, the total average amount ascertained to have been obtained from them as a group in the past. This was done by calculating the amount of net produce and the assessment of all the lands in the group at the rates fixed for each village by the assessors. The amount of net produce divided by the assessment gave the average proportion of the net produce for the whole group.

This being applied to each class of land in every village , determined the accurate rate of assessment for that class with reference to the rest of the land in the same group and the past payments for the group as a whole. All these data were further revised in Mr. Pringle's office. At this stage, the complaints of the ryots were to be heard again. If necessary, the rates fixed by the head assessors were to be revised in the light of the evidence obtained from village hereditary officers. At this stage, Mr. Pringle decided upon the assessment for the collectorate as a whole. He thought that 55% of net produce would leave a sufficiently large surplus with the cultivator to ensure the prosperity of the agricultural classes.

The settlement was first introduced in Junnar, Pabal Indapur , Bhimthadi, Purandar and Khed in 1829-30 and in Haveli and Maval in 1830-31. In spite of the attention to details , the settlement proved to be a failure. A large number of cultivators simply abandoned their homes and fled to the neighboring provinces. Already in 1830 the assistant collector was informing Robertson about the reluctance of the poorer ryots to take up the cultivation on the terms of the new settlement. "Large tracts of land were thrown out of cultivation; and in some districts no more than a third of the cultivatable area remained in occupation." (Administrative Report of 1872 - 73). "One of the most heavily assessed villages is the village of Oolhi, distance from Sholapur 8 miles. This place, I recall a flourishing village 7 years ago, it had a couple of shops, and was to all appearances populous. It is now mostly deserted. The shops are ruined, all the trees disappeared, walls down, and the place in ruins; and of 4000 acres, 2475 are waste, revenue fallen from rs 1066 to rs 618. Patel and Kulkarni both ruined, being involved in defalcations they could not prevent. An acting Patel and Kulkarni doing duty, and an outstanding balance of rs 3,466. Several of the cultivators now cultivate in the neighboring villages. The year prior to the Pringle survey the village produced net revenue rs.2000. The rest of the over-assessed and mis-classified villages have all partaken more or less ruin and misery". (J.D. Bellasis, 26th Jan 1839, quoted in Ravinder Kumar(1968)). In June 1830, Robertson forwarded the results of his inquiries into the details of Pringle's settlement. He considered the work BO full of inaccuracies of classification that it could not safely be made the basis of assessments.(Bom. Arch. Rev. Dept 51/595 of 1834). The revenue commissioner , Mr Williamson agreed with Robertson on 27th April, 1834. In his opinion, because of inadequate supervision of the native staff, there was no protection for the government against the frauds of an assessor charging an unduly low rent. In fact, Robertson had detected several cases where rice and garden lands were entered as dry crop lands, and in some instances, whole villages were rated at a fraction of similar and neighboring villages. Lieutenant Shortrede was appointed to further inquire into Mr. Pringle's settlement. He too, discovered that though land had been accurately measured,

misclassification was general. (Ravinder Kumar, 1968).By this time, Mr. Pringle's Ricardian survey was given up as hopeless.

It will be instructive to discover why a scheme which was theoretically so satisfactory, not only failed to deliver the goods to the government, but also caused misery and hardship to several cultivator families of Indapur and the other areas wherein it had been applied. The next section attempts to look into the causes for the failure of Pringle's settlement.

Section 3.

The generally accepted official view is of collaboration between native brahmin surveyors and dominant cultivators in the villages. It was found that one of the effects of Pringle's survey was to reduce the relative burden on hereditary cultivators, known as meerasdars, who were also thought to be the dominant cultivators in villages. Ravinder Kumar's (Ravinder Kumar (1968)) work is the only systematic attempt to analyze the failure of Mr. Pringle. This work too accepts the official explanation of clandestine collaboration of the native survey officials with dominant cultivators.Ravinder Kumar has given numerous instances where native surveyors were bribed either by dominant cultivators or by village bodies as a whole to reduce the net rent burden on them. As a result, rents fell on the poorer class of cultivators called upris, who did not have any hereditary rights in land, but were mainly tenant cultivators. As a result, this class of cultivators fled to surrounding areas like the Nizam's domains, where they could have land on much more favorable terms.This argument is not entirely without substance. Numerous cases of fraud were actually discovered and the guilty were punished. A special officer was appointed to investigate the frauds and gradually the government came to the conclusion that the entire effort , being riddled with inaccuracies, had to be scrapped and a fresh beginning had to be made.

In focusing exclusively on the frauds committed by the local officials, the government as well as Ravinder Kumar, seem to have missed out on another significant development, which had intrigued the revenue officials. This was the great fall in the prices of agricultural goods that started in 1823. Appendices 3.1 and 3.2 give the prices of jowari at Indapur and Khandesh respectively. These prices show that over a very wide geographical area, agricultural prices had started plummeting in the 1820's. This fact was obviously noticed by most of the government officials. They were intrigued by the fact that prices continued to fall even during years of scanty rainfall. A section of the officials sought to account for the fact by the reduced number of soldiers in the fields since the cessation of hostilities with the Peshwa. However, the fugitive Bajirao II , at the time of his surrender in June 1818, had hardly two thousand soldiers with him. The size of the company's armed forces

directly involved In the war was also not significantly larger. It is true that there was general demobilisation after the conquest with many of the jageerdata reducing their contingents. However* as Chaplin, who sucewradaa Elphinsuona as the revenue commissioner of the Deccan himself admitted, the total size of the armed forces in the Deccan was never sufficiently large enough to cause such a steep fall in prices. (Chaplin's letter to Francis Warden , Aug. 1822, Bom. Arch. Rev. Dept, 16/68 of 1823). Another explanation that was sometimes offered was that the end of the Peshwa's rule had led to a reduction in the consumption of the court at Poona. Even if the validity of this explanation ie granted, it does not explain the fall in the price of a coarse grain like jowari at markets as far off as Khandesh. The fall in the price of agricultural produce was too universal to be directly attributed to a regional decline in demand.

What could then have been the reason for such a great fall ? Clearly, the explanation has to be as geographically dispersed as the phenomena to be explained. During Bajirao II's time, with the weakening of the state power, the fiscal extractive reach of the state had declined drastically. Powerful villagers had succeeded in grabbing chunks of revenue from the government share. This usually took the form of exactions from villagers which went unreported. Apart from that, there were several claims to inams, rent free lands, varshasans and other concessions which were of a dubious origin. The revenue information reaching Poona from the pargannas , ao plentiful and detailed during the reigns of Balaji Bajirao, Madhavrao 1 and Savai Madhavrao seems to have disappeared completely during Bajirao II's reign. The East India Company government, on the other hand, had a much greater fiscal extractive capacity. Through its network of paid servants, coupled with an ability to inflict punitive measures on defaulters, the East India Company government could take a much tougher stand on revenue matters. The collectors of the Company , on the assumption of power, began to investigate minutely claims on revenue. The result was a drastic reduction in the part of the land revenue that went to claimants like village servants, religious institutions etc. Another major casualty was the gram kharch, or the deduction in land revenue that had been hitherto allowed for village expenses. The general effect of this must have bean to reduce rural purchasing power. Appendix 4 gives a summary statement of the average percentage allowance to haqdars, and gramkharch during the reign of Nana Farnavis, Bajirao II and for the year 1821-1822 A.D. Appendix 5 gives a summary statement of the increase/ decrease of village expenses and allowances to haqdars for A.D. 1822-1823. From these figures, we can conclude the portion of land revenue remaining within the villages declined drastically at the beginning of the British rule. We have some data to test this hypothesis a bit more rigorously. Below, we report the results of a regression given below.

lp = 0.24514 lacre - 0.190681ratio + 0.061428 trd.
(13.9992)(-1.7155)(3.7168)2) (values in brackets are t values).

$\bar{R}^2$ = 0.35251, DW - 1.8039.

lp = logarithm of the price of jowari (pounds per rupee) at Indapur (1818-1836)

lacre = logarithm of cultivation in acres at Indapur for 1818-1836.

lratio = logarithm of the ratio of claims of village servants, temples, mosques at Indapur to the total collected revenue at Indapur.

trd = Time trend.

It is important to note that prices are measured as pounds per rupees and not as rupees per pound. Hence, the negative sign on the lratio coefficient vindicates our argument. The coefficient on acres is also theoretically correct. An increase in cultivation lowers prices. Both the causes seem to have operated, but the first cause, of low rural incomes, must have been at play when officials observed low prices in years of scanty rainfall and reduction in cultivation.

Thus, declining rural incomes,because of the high level of fiscal extraction by the government, led to an agricultural price depression. If we let the purchasing power of money at Indapur be denoted by 100, then by 1825 it had increased to 258.8237, by 1826 to 376.4705 and to 470.5882 by 1828. On the other hand, Pringle had used the average price for last 20 years in calculating the money value of net-produce. This meant that the real burden of taxation must have increased drastically.

Given that real tax burdens must have increased uniformly, one still has to account for the redistribution of nominal tax burdens which Pringle observed after his settlement was brought into effect. He observed that the nominal burden of taxation had come down on more fertile lands and had increased on less fertile and productive lands. Pringle's explanation was that the poorer lands had in the past been let on very low rents.The official explanation, and also the one accepted by Ravinder Kumar is that owners of better quality lands bribed the native survey officers so that their lands were shown to be relatively poor. Indeed Captain Shortrede , the officer appointed to inquire into Mr. Pringle's survey discovered that most of the lands were measured accurately, but misclassification was general. Several best quality lands were shown to be poor class lands. This was inquired into and several native officials were tried and convicted for corruption. Ultimately, it was realized that the misclassification of land was so general and there had been so much corruption by native officials that the whole effort of Mr Pringle had to be set aside. This was the end of the Ricardian experiment in Maharashtra.

Ravinder Kumar explains this by arguing that Pringle's survey destroyed the principle of collective fiscal responsibility. Traditionally, cultivators belonged to two

broad classes , mirasdars and upareea. The mirasdars vert; hereditary cultivators and land owners who could generally eell their land. They would either be descendants of the original settlers of the village known as gharbaus, or biradars, who had bought shares in such lands from the original owners. Biradar was a legal term in parsian,used only in public and official documents. It indicated some kind of legal equality of cultivators. In principle, all the owner-cultivators were to have an equal share of land revenue burden. The state would more often than not lack precise information on the quality of soil in each field. **h**ence, it would be informationally cheap for the state to charge a given rate per beega and let the legal brothers redistribute it among themselves according to the fertility their fields. As we have seen in the case of osadee khurd, this was achieved by varying the size of the rivaj beega according to the fertility of the field. The jatha was collectively responsible to the state for land revenue. If a member of a jatha failed , the other members were obliged to make good the losses. The government officials dealt with the patil rather than individual jatha or individual cultivators in fixing the overall fiscal responsibility of the village. The kamavisdar would fix the revenue burden for the village aa a whole, and the Patil would redistribute it uniformly among the jathas and the upari cultivators (strangers cultivating village land on short leases) who would redistribute it in their turn among the individual members, again on a uniform nominal basis.Upari cultivators had no particular loyalties, and hence could simply abandon cultivation if pressed beyond a point. The precolonial economy was an economy of scare tenants rather than scare land. Indeed, there are numerous instances of cultivators fleeing their villages when faced with unduly large fiscal pressures. The following letter by Peshwa Balaji Bajirao to the villagers of Mohokal, taluka Khed is highly typical." A kowl to the village people o-f Mohokal, Taluka Khed, prant Junnar. It has been represented that you have left the village owing to the threats of the Mokashi. A cowl is therefore granted that you should return to the village and live comfortably inspite of the Mokashi. The dues of the Mokaahi will be fixed by the Huzur, which only should be paid to him and no more". (Vad, 1907).

Ravinder kumar uses this to argue that village functionaries could not have manipulated their administrative powers to advance their self interest. Since the Patil was responsible to the government for a fixed sum, Kumar argues that it was in his interest to treat all cultivators equitably. The settlement by Pringle destabilised this collective responsibility in that it settled with each individual cultivator. This in his view opened up the possibility for mirasdars to bribe the surveyors so that their rent burdens could be reduced.

A review of equation 1 in section 2 indicates that there were indeed significant inequalities in the distribution of rent burden. The elasticity of the ratio of rivaj beega to kamal beega with respect to productivity is only around 0.2 7.

Let us assume that we have only two classes of land, cl and c2 , both of the same geographical area in standard measures and such that cl is twice as productive as c2. Suppose that the maratha tax rate is rs 1 per beega. Had the elasticity alluded to above been equal to unity, cl would have shown up as twice the geographical area as compared to c2 (say 200 beegas as compared to 100 beegas of cl). This would then mean that the tax burden on cl is 200 rupees, or exactly twice the burden on c2 per standard beega. However, since this elasticity is only 0.27, cl would show up only as 127 beegas to 100 beegas of c2. That would mean that total village revenue would be only 227 rupees rather than 300 rupees, the surplus perhaps being distributed among village functionaries and owners of superior lands.This was the informational cost to the state. The state lacked information regarding the exact productivity of the village lands (except in villages like osadee khurd that had been surveyed) which the patil had. The patil could manipulate this informational advantage.It is then clear, in contrast to what Ravinder Kumar says, that the village functionaries did have sufficient ability to manipulate relative tax burdens.

The colonial state, by bypassing the village functionaries, in effect meant to dissolve this informational asymmetry. The effect of Pringle's survey was to show that lands cl and c2 were of the same geographical area, but that cl was twice as productive as c2. Pringle would then redistribute the older land revenue, rs 227 among cl and c2 in proportion to their productivity differentials. That means that cl pays rs 151.33, while c2 pays rs 75.66. Thus, cl pays re 24.33 more and c2 pays that much less. At the same time, there was a general decline in prices as has been seen above. Assuming that prices fell to three times below their average of the past twenty years, the real income loss to cl and real income gain to c2 equals rs 73 each. Hence, cl has rs 146 to gain if he can show his land as being in the same class as c2. His life time gains, and hence the bribe he will be willing to pay to the native surveyor to put his lands in category c2 equals rs 146/(l-r) where r is the discount rate.

It is this fact, rather than the dissolution of collective responsibility that explains the wide spread corruption and general under classification that resulted during the survey by Pringle. Had the principle of collective responsibility operated as effectively as Ravinder kumar would have us imagine, equating the tax burden, the scope for bribery would not have been there. Peasants offset their loss of the informational advantage by bribing the surveyors. Far from being baffled by the completely new revenue arrangements that were introduced by the government that was equally new, the peasants responded intelligently to preserve their relative advantages.

Of course, not all resorted to bribery, several owners of land of cl quality, on observing that their rent burdens had increased substantially, simply fled from Indapur to other territories like that of the Nizam where land was available on cheaper terms. This fact accounts for wholesale desertion

of villages like oolhi, which was noted by Bellasis. Some others could not pay. They were the ones really trapped. In June 1834, Mr Baber, the collector of Poona wrote to the mamalatdar of Indapur to try and recover more of the outstandings in his charge , urging him that his promotion would depend on the zeal he showed in recovering the balances due. Soon after this, it was discovered that people had been tortured to make them pay. Twenty people, Including the mamalatdar and several hereditary officials were tried and convicted of torturing and abetting torture and were imprisoned for periods varying/ from one to seven year. (District Gazetteer of Poona, 1885, vol.2, Bom. Arch Rev. Dept 45/667 of 1835).

Conclusion.

Thus ended Mr. Pringle's ambitious experiment in the Deccan. The agrarian economy of the 18th and early 19th century Deccan was characterized by a scarcity of cultivators relative to arable land. Since competition among cultivators for land was lacking, Ricardian rent was not the natural result of competition. The English administration in the Deccan tried to replicate British experience in India. They felt that if the state share of agricultural produce was based on the Ricardian theory of rent, agricultural prosperity would create markets for industrial goods in India. Thisthinking was based on the assumption that there existed gentlemen landlords, who would rent out their lands to tenant cultivators who competed for land. However, these conditions were not fulfilled in the Deccan. There were no landless tenants but peasant cultivators who owned the land that they tilled. This class was small relative to the arable land. Even tenant cultivators were scarce. Governments generally took whatever they could, rather than having any fixed principle of revenue appropriation.The upper limit to government demand was set by the fact that whole villages would simply migrate if pressed beyond a point. Land revenue in India did not have the character of rent in the sense it had in England. Officers like Capt. Robertson were aware of it. As that remarkably perceptive revenue collector of Poona wrote to Pringle "Now I consider it established that the thulkaree or meerasdar of the Deccan has private property in the soil. Many proofs in support of this state of the land are adduced in my various reports to government which you have already perused. But you have advanced an opinion in the 49th para of your letter , which you place in the rank of general truth in respect to India,but which, if applied to this collectorship, would go far to subvert the most important privileges consequent on the proprietory rights of the meerasdars in the soil, and which privileges, from the facts before me, I have concluded to be indisputable. Your arguments, I think, require to be supported by particular and better proofs than the contra position by me before they can be deemed applicable to this collectorship. I therefore beg you will show the basis in point of applicability here on

which your opinion rests that the character which land revenue has always borne throughout India is essentially that of rent. It is of the greatest importance, you must necessarily perceive that a correct notion of the nature and privileges of meerasi tenure (which is the prevelant one in the district) would be liable to no misconstruction, and you will therefore , I have no doubt either spare no pains to prove your position or concur in mine."(Robertson's reply to Pringle, 22nd Dec 1823). Later in the same letter, RobertBon adds "I concur with you in the utility of a survey and new assessment, but I am not certain that you have reviewed the consequences of the latter operation with sufficient attention . In the first place, are you certain that the method on which you would proceed would produce the results on which you calculate ? In the next place (if you are convinced on the first head) are you satisfied that the result would be applicable to the land tenures of this collectorship- In regard to the first question I confess I should wish to see the success of the method fairly and deciededly shewn in some other province before attempting it as a general measure here - and in regard to the second question, I am clearly of opinion you have as yet given no consideration for by the results which you calculate , it is evident you intend to trample through every barrier until the ryot is reduced from his present condition of a landlord to that of a renter , and the profits of his improvement and indusry lodged in the exchequer - that is, to establish in actual practice here a principle which I fear is too prevalent a practice in India , that the "people are borne for the use of government and only live to oblige it "". (Robertson's reply to Pringle, 22nd Dec 1823). Generally, governments did not have sufficient information about the relative qualities of soil in each village. Since land revenue burden among villagers was in principle equally distributed, it was informationally cheap to decide the land revenue burden for the village as a whole and let the villagers redistribute it among themselves by varying the rivaj beega measures. As we have seen, this also had a cost in that the collected land revenue was lower than the maximum derivable, leaving the villagers with a subsidy, which we interpret as a return for the informational advantage that they had.

The colonial administration tried to impose results of competition on a system that differed from the competitive system in an essential way. Lacking market determined prices, the government needed to collect information. This would have threatened the informational advantage that villagers had under the older revenue administration. Hence, they thought out alternative strategies to preserve their real incomes, thus bringing to naught Mr. Pringle's exercise.The process was hastened by the fall in agricultural prices, that was a direct result of a greater land revenue reach of the colonial government.

What implication does this have for our understanding of the impact of colonialism on the Indian economy ? The usual

approach to understanding the impact of colonialism is to analyse financial aggregates. Our study shows that an understanding of the nature of the colonial state along with analysis of demographic change over the nineteenth century would shade light on alternative views of colonial impact on the development process. As we have seen, under the native administration, rural areas could apply several strategies to conserve their real incomes. As the colonial state with its paid bureaucrasy, formal legal and judicial machinery and coercive powers consolidated itself, it reduced the strategies available to rural areas. This was hastened by the rapid demographic change and increasing burden on agriculture through the nineteenth and twentieth centuries, making colonial exploitation even more potent. For instance, at the close of the nineteenth century, G.V. Joshi was already bemoaning the fact that the incidence of land revenue burden per head was in the Bombay presidency was the highest in the country (almost double the average for the country as a whole) and was the main reason for agricultural backwardness of the presidency. (Joshi 1912). Clearly, the nineteenth century must have seen a secular institutional change which drove the rural populace in an increasingly subservient position vis a vis the colonial state. Understanding of this change will be important for understanding the long run development pattern for India.

Appendix 1.

	well watered lands		channel watered land	
Name of village.	**Feet**	**Inches**	**Feet**	**Inches**
Kukoormunda	8	0	8	0
Doongri	6	8	9	4
Amalnere	8	2	8	2
Erandole	8	2	7	2
B(illegible)	7	0	7	0
Dotran	8	0	8	0
Chalisgaon	8	2	8	0
Manikpurje	7	11.75	7	0.25

* Source: Letter from Captain Briggs to William Chaplin , 31et October 1820.

Name of field	riwaj beega	kamal beega	riwaj kamal	to mullye beega	First beega	second beega	Third beega	Fourth beega	Productiy index
Pandree	120	49.4875	2.424854	10	6.9375	11	10	11.55	9.535937
wursola	120	59.5	2.016806	4	12.9	14.5	12	16.1	10
Dholijota	60	36	1.666666	0	0	0	0	36	3.375
Ambekat	60	16.3125	3.67816	0	0	0	5.2625	11.05	1.69375
Wurshet	150	67	2.238805	5	12	10	12	28	10.5625
More Durra	120	28.6875	4.183006	0	0	9	3.55	25.1375	2.80039
Veehr Shot	180	195.425	0.921069	18	37.925	40	39.5	60	33.04375
pangarra	60	28.5	2.105263	0	0	5.5	8	15	3.265625
Kosht Sthal	480	201.95	2.376825	21.95	45.925	40.075	48.15	45.85	36.2914
Margood	120	73.925	1.623266	8	17.45	22.2875	17.85	8.3375	13.8879*
Toorkat	180	18.9625	9.492419	5.625	2	3	0	8.3375	3.859765
Bokar Shet	45	99.175	d.453743	32	12.925	14	15	25,25	21.66093
Gaon Shet	120	81.175	1.478287	27	18.8	17.875	9	8.5	19.53984
Bhore Wadee	90	31.425	2.863961	8.925	8	4	5	5.5	7.1135
Warpattya	60	27.8	2.158273	0	0	2.8	11	14	3.125
Nagarya	195	142.7	1.366503	0	3	24	34.875	80.825	16.43671
Wagshet	60	30.35	1.976935	3	3	8	7	9.35	4.876562
Kotumba	120	154	0.77922	0	34	40	40	40	23.5
Kalee	120	134.2	0.894187	11	28	21	29	45.2	22.26875
Wayet	120	225.1875	0.532889	0	0	4	13.75	207.4375	21,79101
Garolole	90	36.3375	2.47678	0	0	11	16.3375	9	4.604687
Bhel Teeka	60	27.425	2.187784	0	0	9	9	9.425	3.414843
Jayar	180	64.275	2.800466	2	11	19	10.6	21.675	9.825781
Temkar	75	31.375	2.390438	0	9	7.9875	5	9.3875	5.003125
Koombar Khan	90	46.7	1.927194	3	3	7	5.1	28.6	6.2875
Kharal	120	58.275	2.059202	11	14	8.725	9.3	15.25	11.58046
Mhaswar	180	99.05	1.817264	1.5	24	,17	15	28.05	18.78593
Choonkur	71.25	14.1375	5.039787	0	0	0	0	14.1375	1.32539
Wayarol	300	108.425	2.766889	13.25	21.7	28.975	18.5	26	19.67109
Dhorum Shejar	60	18.1	3.314917	0	0	4.5	4.5	9.1	2,11875
Chinch Pattee	30	11.775	2.54777	0	3	2.25	1.525	5	1.760937
Peempul pattee	60	24	2.5	0	0	0	0	24	2.25
Lowndur	30	6.9625	4.308797	0	0	0	0	6.9625	0.652734
Kalwut	60	23.625	2.539682	0	0	3	8.625	12	2.671875
Ooutrund	30	16.5	1.816181	0	0	0	0	16.*	1.546875
Lonewal	30	21.875	1.371428	0	0	0	0	21.875	2.050781
Pulsoombee	60	27.25	2.201834	0	0	0	0	27.25	2.554667
Bawan chawrey	30	24.75	1.212121	0	6.75	6	6	6	3.9375
Satey	240	96.6375	2.483507	7	18	17	20.5	34.1375	15.54414
Kala	240	87.325	2.748353	0	11	21	22.5	32.825	11.92109
Bheegat	60	25.25	2.376237	0	0	0	10.25	15	2.6875
Linga	60	23.183	2.588103	5	7.05	3	4	4.133	4.9937X8
Garga	60	29.15	2.058319	0	7	: 5	8	9.15	4.389062
Oonenal	60	36	1.666666	0	0	0	0	36	3.375
Ouundra	120	48.2625	2.486402	0	12	12	12	12.2625	7.524609
Thapee	60	24	2.5	0	0	0	0	24	2.25
Pankhind	450	48.2625	9.324009	0	12	12	12	12.2625	7.524609
Kanoba	240	108.35	2.215043	24	25.35	25	14	20	22.86875
Hudola	240	108.35	2.215043	24	25.35	25	14	20	22.86875
Gotunwud	30	10	3	0	0	0	0	10	0.9375
DuJckar whole	60	23.375	2.566844	0	7	16.375	0	0	4.308593
Veehreche	30	10.925	2.745995	5	2.925	3	0	0	3.075

Appendix 3.1

Price of Jowari at Indapur.

year	price (pounds/rupee)
1818-19	17
1819-20	19.5
1820-21	32
1821-22	32
1822-23	32
1823-24	36.75
1824-25	12.5
1825-26	44
1826-27	64
1827-28	32
1828-29	80
1829-30	46
1830-31	40
1831-32	60
1832-33	23
1833-34	46
1834-35	48
1835-36	38
1836-37	66

*** Source: Bombay District Gaz. district Gaz.of Poona, 1885.**

Appendix 3.2

Price of Jowari in Khandesh

year	price (in pounds/rupee)
1823-24	74
1824-25	76
1825-26	79
1826-27	90
1827-28	115
1828-29	144
1829-30	93.5
1830-31	118
1831-32	144
1832-33	67
1833-34	73
1834-35	62
1835-36	62
1836-37	102
1837-38	121.5
1838-39	80.5
1839-40	102.5
1840-41	109.5
1841-42	94.5
1842-43	88

- Bom.Distr. Gaz. District Gaz. of Khandesh 1880.

Appendix 4.

Average Percentage of Allowances to village claimants and deductions for village expenses.

Item 1. Allowances to Deshmukhs, Deshpandes and other haqdars.

District:	Reign of Nana	Reign of Baji Rao II.	A.D. 1821-1822.
Poona.	3.85	3.5	2.125
A. Nagar.	2.65	2.125	2.11
Khandesh	2.625	2.525	2.775
Dharwar	8.425	8.225	7.1525

Item 2. Allowances to Patils and Kulkarnis.

District:	Reign of Nana Farnavis	Reign of Baji Rao II.	A.D. 1821-1822.
Poona.	1.8	1.95	1.35
A.Nagar.	1.5	1.4	1.6
Khandesh	4.625	5.4	4.5
Dharwar	6.1575	8.15	6.145

Item 3 Duduction for Village Expenses.

District:	Reign of Nana Farnavia	Reign of Baji Rao II.	A.D. 1821-1822.
Poona.	11.11	12.3	2.85
A.Nagar.	10.85	10.2	5.625
Khandesh	11.75	14.1025	4.155
Dharwar	33.11	36.525	12.14

Source: Chaplin's Letter to Francis Warden, August 1822, Bom.Arch. Rev. Dept, 16/68 of 1823.

Appendix 5

Statement of Increase/ Decrease of Village expenses, allowances to haqdars for fuslee 1232 over fuslee 1231.

	net increase	net decrease
Poona		3,728-2-25
Ahamadnagar	38,467-0-79	
Khandesh		45,337-0-72
Dharwar		42,884-0-81
Total	38467-0-79	91,950-1-78
total net decrease		53,483-0-99.

Source Chaplin's letter dated 26th July, 1824 Bom. Arch Rev Dept 10/94 of 1824.

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for copies of the above papers, please write to :

Neeraj Hatekar
Editor, Working Papers,
Department of Economics
3rd Floor, Ranade Bhavan
Vidyanagari, University of Bombay
Kalina, Santa Cruz (E)
Bombay - 400098.
India.
E mail : Editor@econbu.ernet.in