

# **The 1972 Land Reforms in Pakistan and their Economic Implications: A Preliminary Analysis**

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## **Introduction**

Land reforms have often been viewed as a significant variable in the economic development of pre-industrial societies [10]. The economic rationale for reform is frequently given as an increase in agricultural output through improvements in resource use efficiency and cultivator incentives. But other goals are typically posited as well. An official publication of the Ministry of Food, Agriculture, and Rural Development of Pakistan stated that the 1972 reforms "affect the life and fortunes of the common man much more significantly than any other measure contemplated by the government." Among the specific objectives mentioned for the reforms were "breaking up iniquitous concentration of landed wealth, reducing income disparities, increasing production, and re-ordering the tenant landlord relationship on the basis of mutual respect and trust" as well as "increasing employment" and generally providing for the "socio-economic uplift of rural masses" [31, pp. 5-6]. Our study is an evaluation of the 1972 measures in the context of these objectives.

The introductory section which outlines the study is followed by a section which explains the major provisions of Martial Law Regulation (MLR) 115 and subsequent amendments and concludes with an estimate of the total area that may be resumed under the new ceiling on land ownership. In the next section we discuss the impact of redistribution of the resumed area on agricultural productivity, income distribution, and employment under the assumption of full implementation of the provisions. The section which follows discusses the plausibility of the full implementation assumption as well as operational problems in implementation. The final section presents our conclusions.

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The study is not an exhaustive economic analysis and has been limited by a number of rather severe data constraints, which are discussed throughout. The quantitative results must be taken as only approximations. Moreover, these represent an essentially static estimate of only the first round impact, though we hope to illuminate some of the dynamics which will be operative over time.

### **A Commentary on Land Reforms in Pakistan**

Prior to the important land reforms of 1959 (under Martial Law Regulation 64), land legislation was piecemeal and varied from area to area. Until 1950, the ineffectual Punjab (and North-West Frontier Province) Tenancy Act of 1887 provided the only regulations regarding tenancy and security of tenure; it applied only to occupancy tenants. In 1950, the N.W.F.P., the Punjab, and Sind passed tenancy acts which attempted to provide limited security of tenure, regulated both rental shares and the division of production costs, and prohibited certain cesses by landlords on tenants [36, pp. 316-317]. A ceiling on holdings and abolition of intermediaries did not come in the western wing until 1959. The provisions of Martial Law Regulation 64 included a ceiling of 500 acres of irrigated land (1000 acres of unirrigated land) or a total of 36,000 produce index units<sup>1</sup> (whichever was greater), with compensation payable to owners for land in excess of the ceiling resumed by the Government. Resumed land was to be redistributed to tenants at a subsidized price. Other sections provided for consolidation of holdings, security of tenure, abolition of *jagirs* (intermediaries), and restrictions on further fragmentation of holdings [1, p. 49].

### **The 1972 Land Reforms**

#### **Provisions of Martial Law Regulation 115**

The main provisions of MLR 115 (promulgated in March, 1972) are as follows [32, pp. 291-300]:-

#### **(a) Ceiling on Individual Holdings**

An individual can under no circumstances own or possess land in excess of 150 acres of irrigated land, or 300 acres unirrigated, or a combination of irrigated and unirrigated land, the aggregate area of which exceeds the equivalent of 150 acres of irrigated land (one acre of irrigated land being equated to two acres of unirrigated land), or an area equivalent to 15,000 produce index units, whichever is greater. The owner was allowed to retain an additional area equivalent to 3,000 produce index units if he owned a tubewell or tractor or both as of December 20, 1971. The ceiling was later reduced to 12,000 (from 15,000) produce index units and the tubewell-tractor supplement to 2,000 (from 3,000). The maximum holding for a tubewell or tractor owner thus became 14,000 produce index units, with none of the exemptions allowed under the 1959 law (orchards, stud farms, hunting preserves, etc.). Also, in contrast to the 1959 law, the ceiling provision was applicable to religious, charitable and educational societies and trusts, excepting only "universities established by law" [1, pp. 8-11].

<sup>1</sup>The produce index unit (PIU) was devised to facilitate compensation to refugees who lost land during Partition in 1947. The index measures productivity of the land; any two acres anywhere in Pakistan with the same PIU rating should be capable of producing approximately the same revenue product per year [54, Appendix II].

A special provision limited anyone "in the service of Pakistan" who had acquired land between January 1, 1959 and two years after his leaving the service, except by inheritance, in his own name or in the name of his heirs or others, to a maximum holding of 100 acres [1, p. 11].

Declarations of holdings were required of any person who (i) possessed land in excess of the 12,000 PIU (or 100 acres for civil servants) ceiling as of March 1, 1967 or (ii) possessed such land on December 20, 1971 or (iii) possessed land in excess of the ceiling at any time between those two dates. This provision was intended to detect those transfers of land made to thwart the ceiling provisions.

Any land in excess of the ceiling was to be resumed by the Government, without payment of any compensation to the owner, but the choice of the land to be retained was left to the owner [1, p. 11].

#### (b) *Transfers of Land*

Transfer of land in any manner, made by anyone possessing land in excess of the ceiling, on or after December 20, 1971, was declared invalid. Alienations made between March 1, 1967 and December 20, 1971 to heirs under the provisions of the inheritance law were allowed; other transfers were declared void, except when declared by the Land Commission to have been *bona fide*. For a transfer to be considered *bona fide*, the recipient was to be actively engaged in management, supervision or rent receiving functions, to be paying the land revenue and charges, and to have paid "adequate consideration" for the land [1, p. 9]. It is not clear which of these conditions are necessary or sufficient. Implementation thus requires discretion in individual cases.

#### (c) *Orchards, and Stud- and Livestock-Farms*

The concessionary area under orchard plantations and stud- and livestock-farms, allowed as additional area above the ceiling of the 1959 land reforms, was to be confiscated and appropriated by the Government without payment of compensation. In addition, all area under "*shikargahs*" (private hunting preserves) was to be resumed by the Government without compensation.

#### (d) *Tenancy Reform*

(i) The regulation provides for a strict prohibition of tenant ejections, unless it is established in a revenue court that the tenant has (a) failed to pay rent or cultivate the land in accordance with the terms of his tenancy, (b) rendered the land "unfit for the purposes for which he held it", or (c) sublet his tenancy [1, p. 15].

(ii) The landowner was made entirely responsible for the payment of land revenue, its cesses, other taxes, water rate and any expenditure on seed; tenants were exempted from financing or sharing any of these liabilities.

(iii) The cost of fertilizers and pesticides must be shared equally by the landlord and the tenant.

(iv) The landlords are prohibited from levying any cess on or taking free labour from their tenants.

**(e) Impartibility and Restrictions on Alienation of Holdings**

(i) A joint holding with an area equal to a subsistence or economic holding (12.5 and 50 acres respectively in the Punjab) was rendered indivisible.

(ii) A joint holding with an area greater than that of the subsistence or economic holding could not be partitioned if such a partition resulted in land segments which were less than the area of a subsistence or economic holding.

(iii) An individual owner was not allowed to alienate, by sale, mortgage, gift or otherwise, any portion of his holding if the alienation reduced the size of his holding to less than subsistence or economic holding. He was free, however, to alienate his entire holding [1, pp. 14-15].

**(f) Utilization of Resumed Area**

Any area in excess of the prescribed ceilings was to be resumed and to be vested in the Government. The area thus acquired was to be redistributed with the following priorities:

(i) A tenant who was shown in the Revenue Record to have been cultivating the resumed area during either of the crop seasons in 1971-72 was to be given first priority in the allocation of that land. The land thus distributed would be free of any charge or payment.

(ii) If the resumed land was not recorded as having been cultivated by any tenant during 1971-72, it would be distributed among tenants and other persons owning less than a subsistence holding, on such terms and conditions as the Government determines. The amount of land distributed to any individual was restricted to an amount that would not bring his total holdings above the subsistence holding.

(iii) The area resumed from orchards, stud- and livestock-farms, religious, charitable or educational societies and "*shikargahs*" would be utilized by the Government as it deemed fit. However, if such areas were to be leased out, the person from whom the land was resumed would have the right of first option to the grant of lease.

**Amendments**

The Provincial Assemblies of Sind, the N.W.F.P., and the Punjab passed amending acts soon after the enactment of MLR 115; these acts are virtually identical and make the following changes [1, pp. 20-33]:

(a) Transfer of land from owners who possessed land in excess of the ceiling to an unmarried or widowed sister "who has not received her due share of inheritance of ancestral land" was allowed if made between March 1, 1967 and December 20, 1971;

(b) The provision for bonus produce index units to enlarge the allowable ceiling was extended to tractors or tubewells purchased at any time after the enforcement date of MLR 115;

(c) The phrase "Service of Pakistan" was redefined as "Civil Service" and explicit exemption was provided for high Government officials and members of National or Provincial Assemblies with regard to the 100-acre ceiling; and

(d) A clause which restricted intra-family transfers of land in excess of the ceiling retroactively to March 1, 1967 was deleted [1, p. 27].

These four amending provisions have significance for the economic impact of the legislation, in each case lowering the potentially resumable area. Other changes were of a minor and technical nature.

### Resumable Land Area Available for Redistribution

The aggregate economic impact of a redistributive land reform depends heavily on the amount of land that changes hands. This amount is a function of the total area held in excess of the legal ceiling (the "resumable area") and the effectiveness of enforcement of the ceiling provision. There is no reliable figure for resumable area under MLR 115, and estimates, both official and unofficial, have varied widely.<sup>2</sup> It is certain that the declarations filed with the Land Commission do not present an accurate picture as large owners have concealed or illegally transferred vast amounts of land.<sup>3</sup> The calculations in the remainder of this paper do not depend on any particular amount of resumable area, but give estimates of economic consequences on a per acre basis which can be used with any aggregate figure for acreage resumed. However, because an empirical estimate for resumable area does not exist, and because such an estimate would be of great benefit to policy makers in judging the progress of implementation and formulating policy responses, and because the estimation is extremely problematic, we will discuss in some detail our methods and conclusions.

We will use two methods to estimate the area held in excess of the new ceiling as of 1967; ownership of such land in that year obligated the owner to file a declaration under MLR 115. The two methods converge on a minimum figure for land in excess of the ceiling. This exercise does not strictly yield resumable area as certain transfers after 1967 were permitted in the Regulation. The estimate itself allows an insight into the impact of administrative lapses and the impact of land transfers induced by ceiling legislation on the economic potential of the land reform. After discussing problems and methodology, we present our estimate of resumable area.

#### (a) *Operative de jure Ceilings*

The primary difficulties in estimating the resumable area stem from (i) the nature of the ceiling and (ii) the availability of data on land ownership. The ceiling can be expressed in acres or in produce index units "whichever is greater." Thus the operative ceiling can vary from farm to farm depending on the productivity of land.

To confront the first problem we have converted the produce index unit ceiling into an acreage ceiling. The average PIU rating of an acre of land in each province was calculated; dividing this average into the PIU ceiling yields the operative average ceiling in acres (see Appendix 1). Table I gives the

<sup>2</sup>From less than 600,000 [35] to more than 4 million acres.

<sup>3</sup>The press frequently reports discoveries by the Land Commissions or Government authorities of such concealment. See, for example, *Dawn* (Karachi) July 3, 1973 and April 30, 1974; and *Pakistan Times* (Rawalpindi) of July 20 and August 4, 1974.

acreage ceilings by province with and without the 2,000 PIU bonus allowable for possession of a tubewell or tractor. The inclusion of the mechanization bonus clause adds from 45 to 74 acres to the permissible ceiling. Including the bonus, the operative ceiling ranges from 318 acres in the Punjab to 519 acres in Sind.

Table I

*Average Produce Index Unit Ceiling in Acres*

| Province            | Without tractor-tubewell bonus | With bonus |
|---------------------|--------------------------------|------------|
| 1. Punjab           | 273                            | 318        |
| 2. Sind             | 445                            | 519        |
| 3. N.W.F.P.         | 300                            | 350        |
| 4. Baluchistan      | 429                            | 500        |
| <b>All Pakistan</b> | <b>300</b>                     | <b>350</b> |

Source: Appendix I.

*(b) Ownership of Land in Large Holdings*

The difficulty with land ownership data is more serious. The latest published Census of Agriculture, done in 1960, does not disaggregate very large farms beyond "greater than 150 acres," and applies to operated, not owned, area whereas the ceiling applies to ownership. The current Census of Agriculture, besides being unavailable at present, uses the same categories and concepts and will reflect a land situation in flux under the impact of the reform itself.

There are two sources which allow calculation of area owned in very large holdings. One is the declarations filed in the 1959 land reform [16]; every owner of more than 500 acres was required to file declaration. Given data on land retained and resumed in the reform, we can construct a picture of the post-reform situation. The second source is a Ministry of Agriculture survey of tractor owners in 1968 [17]; one category included all farmers with holdings of over 500 acres, though, of course, only large owners with tractors were included.

The difficulty with dated data on land holdings is that through inheritance large holdings are subdivided over time. On the other hand, large owners are characterised by the propensity and ability to enhance their holdings, a tendency reinforced by tractorization [17], so that the area in excess of a given acreage ceiling could conceivably increase over time. Since there is no reason to believe that there has been a dramatic change in the death rate of large landlords, we can estimate the likely effect of the inheritance-subdivision factor on area in large holdings. During the 1950's in Pakistan neither the area in very large holdings, nor the number of very large owners showed any tendency to decline. In the data, collected by the Planning Commission from various sources, relating to the early and mid-1950's (depending on province) and 1946-47 in Sind, there was an aggregate of 7,490,933 acres in holdings greater than 500 acres each, owned by 6,061 individuals (5, Appendix I). In the 1959 declarations, the area in such holdings had increased to 7,749,085 acres, though there was a marginal decrease

in owners to 5,904 [16, p. 326]. This evidence of stability or increase in the area owned in very large units is strengthened by the nature of the 1959 data: landowners had every incentive to understate holdings (or refrain from filing declaration) to evade the ceiling. The phenomenon is somewhat remarkable; not only had subdivision through inheritance been proceeding for five to 12 years prior to the declarations, which are themselves certainly an understatement of large holdings, but the Land Commission explicitly noted that for a variety of reasons, including fear of ceiling legislation, large owners had been subdividing their holdings among family members throughout the 1950's [54, pp. 36-38].

There is no reason to believe that this trend was reversed in the 1960's. Indeed, it is likely that after the 1959 ceiling legislation, pressure to make intra-family *de jure* transfers decreased. It seems probable that "natural" processes in the 1960's would not have caused any significant decline in the area in large holdings, at least not by 1967. Thus we can calculate with some certainty the minimum area in excess of the new ceiling as of the late 1960's. This is important because the 1972 legislation required a declaration from every owner who held land in excess of the 12,000 PIU ceiling as of March 1, 1967. As Table I indicates, this translates to an average of 300 acres in Pakistan as a whole, and 274 acres in the Punjab, where almost two-thirds of the cultivated area is located. For civil servants, the 100-acre ceiling was to apply. How much land was there in excess of this ceiling in 1967?

An estimate can be made from the 1959 declarations, based on the above arguments. The method can be followed in Table II. From the totals of land retained in each province after the reform, we calculated the average acreage retained per declarant and subtracted from this the operative average provincial ceiling from Table I. The difference indicates the amount resumable, assuming that every owner is allowed the bonus acreage and that no significant number of transfers had taken place afterwards. This number is multiplied by the number of declarants in each province. To the sub-total was added the area claimed as exemptions in 1959 which became subject to confiscation in 1972. This total area comes to 2.83 million acres.

For a number of specific reasons, the final figure in Table II is almost certain to be an underestimate.

- (1) The declarations pertain only to 500-acre owners. In the mid-1950's almost as much land was held in holdings of between 100 and 500 acres (7.67 million acres) as in holdings greater than 500 acres in 1959 (7.75 million acres) [16, pp. 250 and 326]. Certainly a sizeable percentage of this area would have exceeded the new ceiling, but none is included in our estimate.
- (2) The declarations probably understate actual ownership.
- (3) There are no figures available for "*Shikargah*" exemptions which would be resumable.
- (4) We have used the higher ceiling, allowing the tractor-tubewell bonus whereas in fact many large holdings, particularly outside the Punjab, will not be so entitled.

- (5) The data for Baluchistan reflect the poor state of land records in that province. The declarations in 1959 give an aggregate area of only 330,848 acres, of which only 162,798 were retained by the owners whereas the Government announced in the National Assembly that 654,372 acres had been surrendered in the province by August of 1972 [11].<sup>4</sup>

Table II

*An Estimate of Total Area in Excess of the 1972 Ceiling in the Late 1960's*

|                                                                       | Punjab | Sind  | N.W.F.P. | Baluch-<br>istan | Pakistan     |
|-----------------------------------------------------------------------|--------|-------|----------|------------------|--------------|
| a. Number of declarants<br>(1959 reform)                              | 2,245  | 2,497 | 1,014    | 148              | 5,904        |
| b. Area declared (000 acres)                                          | 2,579  | 2,870 | 1,970    | 331              | 7,749        |
| c. Area retained (000 acres)                                          | 1,513  | 634   | 1,439    | 163              | 4,794        |
| d. Average area retained per<br>declarant (acres)                     | 670    | 773   | 1,519    | 1,100            | 941          |
| e. Average 1972 ceiling (acres)                                       | 318    | 519   | 350      | 500              | 350          |
| f. Average excess area per<br>declarant under 1972 ceiling<br>(d)—(e) | 352    | 254   | 1,169    | 600              | 591          |
| g. Total area above the ceiling<br>(f) (a) (000 acres)                | 790    | 634   | 1,185    | 88               | 2,697        |
| h. Cancelled exemptions:                                              |        |       |          |                  |              |
| Orchards                                                              |        |       |          |                  | 8            |
| Stud Farms                                                            |        |       |          |                  | 128          |
| Shikargahs                                                            |        |       |          |                  | NA           |
| <b>Total</b>                                                          |        |       |          |                  | <b>2,833</b> |

*Source:* Calculations based on data in [16, pp. 326-31, and 71] and [54, Appendix A].

The other source of information on the ownership of large holdings is the tractor survey data collected in 1968 [35]. In the survey, there were 1,495 tractor owners with holdings greater than 500 acres, averaging 1,317 acres each. The total acreage covered by these holdings was 1,969,000 acres. Using the all-Pakistan average ceiling of 350 acres yields a total of 1.45 million acres in excess of the ceiling. What relationship does this figure have to the total surplus area owned by 500-acre owners?

<sup>4</sup>A figure later revised downward, but still suggesting significant understatement in the 1959 declaration [21, p. 21].



As there were only 1,495 holders of 500 acres in the tractor survey, but nearly 6,000 owners of this size in 1959, one is tempted to believe that only one-fourth of the size class was covered in the survey, as there is no reason to believe that natural processes eliminated the other 3,500 large owners. It is more logical that many of them did not own tractors in 1968. If we assume that the tractor owners in the survey are representative of the size class (which is problematic) and are only one-fourth of the class, the surplus area comes to 5.8 million acres. A second way of proceeding is to argue that since there were only about one-half as many tractors in the country in 1968 as in 1972, the tractor owners represented one-half the class of 500-acre holders. The obvious multiplication yields 2.9 million acres by this method.

It is difficult to know which of these assumptions is more accurate; there are great regional differences in the concentration of tractors. Although most large owners in the Punjab may have owned tractors in 1968, this was not true of all areas. For example, we know that 97% of the tractors in the survey operated in irrigated areas, virtually excluding large owners in *Barani* areas [29, p. 61]. In one irrigated district of Sind, it was reported that of the 288 declarations made under MLR 115, only 20 claimed the tractor exemption [12, p. 15].

Even if we accept the lower estimate of 2.9 million acres, there are factors which suggest that this is a serious underestimate. As in the 1959 data, we are able to project the surplus area only of the 50-acres owners. The tractor survey showed 2,798 owners in the 200-500 acre range, with average holding of 342 acres, or a total of 957,000 acres. Again, we are certain that the survey did not cover all of the 200-500 acre owners and we have included no resumable acreage from this group in our estimate. Yet many in that size range must have exceeded the 350-acre ceiling, or 100 acres for the large class of landed civil servants.<sup>5</sup> There were over 57,000 owners of 100-500 acres in the mid-1950's and tractor demand has been in excess of tractor supply for some time.

The estimate based on the tractor survey thus seems to confirm the 2.8 million-acre estimate as the lowest possible reasonable figure.

The next important issue, then, is how much land changed hands between 1968 and 1971. We suggest that "natural" processes would probably account for very little. If a great deal of land did change hands in this period, it was in direct response to the reform and suggests important policy lessons. But as will be argued in the next section, there are reasons to believe that transfers would not significantly reduce our estimate of resumable area.

A summary of the preceding section is in order. We first arrived at an aggregate figure for land held in excess of the new ceiling as of March 1, 1967, the date on which ownership of surplus land necessitated a declaration to the authorities. Two methods were used to arrive at a minimum figure of 2.8 million acres for resumable area on that date. We have found a number of compelling reasons which indicate that this total falls considerably short of the actual total at that time. Certain land transfers made between that date and December 20, 1971 were allowed by law; others were not. But the extent of these

<sup>5</sup>Just how large is unknown, but see [2, p. 17, and note 7].

legal transfers and their impact on resumable area is not known. We will continue to use the 2.8 million acre figure for the following reasons:—

- (i) The estimate itself is certainly low, for the reasons presented with its calculation. Thus a considerable amount of land could have been transferred without reducing the resumable area below 2.8 million acres.
- (ii) A great many of the transfers were *benami*;<sup>\*</sup> the Regulation explicitly allows confiscation of property for such an offense so that all land illegally transferred should be resumable. This total should be quite significant for the following reasons. (a) Many landowners dismissed the talk of reform as mere political sloganeering and were taken by surprise; a standard response was to backdate transfers to evade the ceiling. Like the MLR 64 in 1959, MLR 115 came very suddenly, only 3 months after the new regime assumed power. (b) Owners acting on rumours of land reforms could not have known in advance the conditions for *bona fide* transfers; certainly many transfers made solely to evade the law would have failed to meet the explicit criteria for legal transfers, and thus represent resumable area.
- (iii) There is indirect evidence that the declarations of holding which were filed understated real ownership as of March 1, 1967; like illegal transfers, inaccurate declarations constitute a violation punishable by confiscation of property and thus represent potentially resumable acreage. Consider, for example, data from the N.W.F.P. After the 1959 reforms, 1,014 landowners retained over 1.4 million acres or an average of 1,519 acres each (Table II). The area declared in the province in the 1959 reforms and the number of declarants had both increased since the mid-1950's [54, Appendix I]. There is no reason to believe that the number of large owners or the area in large holdings dramatically decreased in the following nine years. Moreover, the data from the mid-1950's showed 11,910 owners of between 100 and 500 acres each. Some of this latter group, and virtually all of the 1,014 very large owners should have been required to file declarations as possessing land in excess of 350 acres each on March 1, 1967. Yet only 670 owners filed declarations of whom only 227 surrendered any land [21, p. 21]. In Pakistan, during the mid-1950's there were 57,287 owners of land in the size group of 100 to 500 acres each. In 1959, after the reform, there were 5,904 owners who averaged 941 acres each. The law required declarations from anyone owning land in excess of, on the average, 300 acres (or 100 acres for civil servants). Yet only 11,990 declarations were filed of which only 2,048 yielded any resumable land [54, p. 21].

For these reasons, we believe that a massive quantity of land remains recoverable. In confirmation of this point, it was recently announced by the Chief Minister of the Punjab that an additional 5 lakh (500,000) acres of land that should have been confiscated under the Regulation "has yet to be resumed

<sup>\*</sup>Literally, "without name," but generally meaning any illegal transfer.

and utilized for which the present Government has taken up resumption proceedings in the courts" [41].

### **Economic Implications**

We will discuss the economic implications under four broad headings: (i) redistribution of the basic economic resource, land, and the resultant structural alteration of the rural economy; (ii) the impact of land redistribution on output; (iii) the impact of the tenancy provisions on income distribution; and (iv) the employment effects of land redistribution.<sup>7</sup>

#### **Land Redistribution**

As the Government rightly notes, the creation of farm owners from landless tenants has important social, political and economic implications. To estimate the magnitude of this change, we need to estimate, first, the amount of resumable land that can be distributed to the landless, and then the number of potential beneficiaries. The Regulation gives priority in redistribution to those tenants already farming the resumed acreage. Completely landless tenants will receive 12.5 acres of land (16 acres in Sind, 32 acres in Baluchistan); tenants who own some land will receive additional land to bring their total up to this "subsistence" farm size.

There are no available data to show the relative proportion of landed and landless tenants who would be eligible and, therefore, the average plot size to be distributed is problematic. Because of this, we have prepared one estimate based on the assumption that parcels will be distributed in the 12.5 acre size blocks, since presumably landless tenants in Baluchistan and Sind could receive more than that figure but many owner-cum-tenants would receive less. A second estimate was made using a figure of 6.5 acres per beneficiary. This figure is close to the average size of plots already distributed [30, p. 6, and 21, p. 21]. But these figures are not final and show disproportionately fewer tenants settled in Sind and Baluchistan where parcels should be larger per tenant. Thus the final figure should fall between the two estimates.

Because the owner is permitted to choose the land he will surrender, not all of the land resumed will be cultivable. Therefore, we have made three estimates of the redistributive impact based on different assumptions about the percentage of resumed land that is cultivable. It is well known that very large holdings often consist of much waste land and the provision in the Regulation giving the owner his choice of land to be retained should increase the ratio of waste to usable land. However, it is also true that large holders leave undeveloped land that could be developed by a small holder whose entire holding is to be 12.5 marginal acres. Our first estimate, then, assumes that all the resumed land can be cultivated eventually, given extension of irrigation and increased availability of land developing machinery. We consider this assumption unrealistic but include it as the upper limit on the reforms' impact. Inclusion of this estimate also focuses attention on important policy implications, as will be discussed in the final section. The second calculation is based on the percentage of farm area which was classified as uncultivable waste on holdings above 150 acres throughout Pakistan in the Agricultural Census of 1960

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<sup>7</sup>For a treatment of the 1959 reforms using similar criteria, see [4].

[27, p. 217]. Though holdings larger than 150 acres probably show an even greater percentage of waste, as this percentage is an increasing function of farm size, the calculation based on this assumption is a rough estimate of the impact that could have been expected if land had been resumed on a random basis. The percentage of cultivable and cultivated land (of total owned area) for large farms was calculated as 71.7% [27, p. 217].

Because owners are permitted to part with their least desirable land and because some of the resumed area will be hunting preserves and other non-agricultural land, a third assumption is necessary. Here we assume that half the resumed area is suitable for turning over to tenants for cultivation. This is the most realistic assumption and is confirmed by the ratio in early, incomplete returns furnished to the Federal Land Commission.<sup>8</sup> The difference between the second estimate and the third represents the effect of the clause which allows owner selection of retained area.

Because the estimate we have made for total resumable area is based on the obviously dubious assumption of full implementation of the ceiling provision, the following table will present three calculations, two based on two official sources giving already resumed area, and one on the authors' estimate of resumable area. The first official figure, of 1.16 million acres, was reported in the National Assembly in August, 1972 [11]. The second, of 850,150 acres, was reported in the *Pakistan Economic Survey*, 1972-73 published in early 1974 [21, p. 21]. This second figure, although not completely final, is the latest official data which can be cited. The actual magnitude of the change will depend on the effectiveness of implementation. Our calculations give the range of possibilities.

We should emphasize here that the calculations below represent only potentialities for redistribution to tenants. In practice, provincial government may wish to retain some of the resumed land, thereby limiting the impact on tenants. Some resumed land has already been turned over to government agencies such as the Wildlife Management Board and some, as provided for in MLR 115 [1, p. 14], has been leased back to former owners as livestock farms [20]. Thus the potential is an overstatement of the actual impact in terms of structural change—tenants becoming owners. The results are summarized in Table III.

From the table it is obvious that even the most optimistic assumptions on the potentiality of MLR 115 allow alteration of the status of only 16% of the total number of tenants in the country.<sup>9</sup> Under more realistic assumptions, the percentage of beneficiaries under the land redistribution clause falls to well under 5%. More interesting in terms of policy lessons is the great range in the numbers of beneficiaries between the various assumptions about resumable area and the percentage thereof which is cultivable. The latest data published by the Government put the number of benefited tenants at 40,194 [21, p. 21], or about 2% of the total number of tenants in the country.

<sup>8</sup>Exact figures from the Land Commission cannot be quoted as the reform is still in progress and thus all figures are subject to significant alterations as new cases are opened, appeals decided, and so on.

<sup>9</sup>We have used the figures for tenancy in 1960 because no later ones are officially available.

Table III  
*Estimates of Tenants Benefited by Land Redistribution*

| Source                                           | Cultivable Area Available for Redistribution (000 acres) | Tenants Benefitted (000) |              | Col. 3 as % of Total Tenant Holdings. <sup>a</sup> |              | Col. 3 as % of Total Agricultural Holdings. <sup>b</sup> |              |
|--------------------------------------------------|----------------------------------------------------------|--------------------------|--------------|----------------------------------------------------|--------------|----------------------------------------------------------|--------------|
|                                                  |                                                          | Assumption A             | Assumption B | Assumption A                                       | Assumption B | Assumption A                                             | Assumption B |
| 1                                                | 2                                                        | 3                        | 4            | 5                                                  | 6            | 7                                                        | 8            |
| <b>I Authors' Estimate (full implementation)</b> |                                                          |                          |              |                                                    |              |                                                          |              |
| (a) If 100% cultivable                           | 2,800                                                    | 224                      | 448          | 7.8                                                | 15.6         | 4.6                                                      | 9.2          |
| (b) If 72% cultivable                            | 2,016                                                    | 161                      | 322          | 5.6                                                | 11.2         | 3.3                                                      | 6.6          |
| (c) If 50% cultivable                            | <u>1,400</u>                                             | 112                      | 224          | 3.9                                                | 7.8          | 2.3                                                      | 4.6          |
| <b>II 1972 Government Figures<sup>c</sup></b>    |                                                          |                          |              |                                                    |              |                                                          |              |
| (a) If 100% cultivable                           | 1,160                                                    | 93                       | 186          | 3.2                                                | 6.5          | 1.9                                                      | 3.8          |
| (b) If 72% cultivable                            | 835                                                      | 67                       | 134          | 2.3                                                | 4.7          | 1.4                                                      | 2.8          |
| (c) If 50% cultivable                            | 580                                                      | 46                       | 93           | 1.6                                                | 3.2          | 0.9                                                      | 1.9          |
| <b>III 1974 Government Figures<sup>d</sup></b>   |                                                          |                          |              |                                                    |              |                                                          |              |
| (a) If 100% cultivable                           | 850                                                      | 68                       | 136          | 2.4                                                | 4.8          | 1.4                                                      | 2.8          |
| (b) If 72% cultivable                            | 612                                                      | 49                       | 98           | 1.7                                                | 3.4          | 1.0                                                      | 2.0          |
| (c) If 50% cultivable                            | <u>425</u>                                               | 34                       | 68           | 1.2                                                | 2.4          | 0.7                                                      | 1.4          |

<sup>a</sup>Of a total of 2,862,247 holdings (tenants and owner-cum-tenants) as given in [27, Table III].

<sup>b</sup>Of a total of 4,859,983 holdings as given in [27, Table III].

<sup>c</sup>Source [11]. Here, as elsewhere, government figures fluctuate over time as new cases are reviewed and appealed.

<sup>d</sup>Source [52, p. 21]. Here, as elsewhere, government figures fluctuate over time as new cases are reviewed and appealed.

Note: Assumption A: that each tenant receives an average parcel size of 12.5 acres.

Assumption B: that each tenant receives an average parcel size of 6.5 acres.

(Underscored estimates are those used in later calculations.)

The Planning Commission estimates that 200,000 tenants received land under the 1959 reform [37, p. 308]. The small number of beneficiaries in the present reforms is a direct consequence of three factors: (i) problems in ceiling implementation which prevent confiscation of an undertermined amount of legally resumable area; (ii) the relatively high ownership ceiling and complementary provisions; and (iii) the high percentage of waste land unfit for redistribution in the total area resumed.

The legal ceiling on ownership is high in comparison to ceilings in other South Asian states (which are typically less than one-sixth the new ceiling in Pakistan) and the size of the holding of most of the country's farmers. Moreover, the ceiling applies to individuals so that some families can retain vast quantities of land relative to that of most Pakistani families. In 1960, operated holdings of the size group greater than 150 acres constituted less than 0.5% of all holdings but covered 10% of the farm area. Holdings of over 50 acres were only 2% of the total but covered 23% of the area. In contrast, farmers of less than 5 acres operated almost 50% of the agricultural holdings but only 10% of the area [27, p. 12]. These figures understate significantly the disparities as many "operated holdings" are cultivated by landless tenants. A measure of ownership concentration would show much greater inequality. Moreover, the figures do not account for agriculturalists without holdings, the landless labourers. The Government has set 12.5 acres as the subsistence holding (16 acres in Sind, 32 acres in Baluchistan). More than three-fourths of the agricultural work force operate less than a subsistence holding, and a greater percentage own less. It is in the context of this huge class of below-subsistence farmers that the new ceiling seems quite high.

A ceiling based on the family rather than the individual holding would produce large amounts of redistributable land and would reduce the potential for *benami* transfers and corruption. Indeed, our analysis suggests that transfers within families, legal and illegal, prevented at least two million acres from being resumed as of mid-1974. The gap between the published ceiling and the *de facto* ceiling, illustrated later, is largely a result of this provision.

Likewise, the tractor-tubewell ceiling bonus, besides encouraging tractorization, which has questionable social and economic consequences in Pakistan [12], in effect raised the ceiling per eligible declarant by an average of 45.5 acres. If only half of the 12,000 declarants made use of the clause, the foregone resumable area would amount to 273,000 acres (or enough land to settle 42,000 tenants at 6.5 acres each) if all the land were cultivable, or 21,000 tenants if one-half were cultivable. The former figure may exceed the final total of tenants settled under MLR 115.

This raises the second problem in obtaining sufficient land for redistribution—the quality of the land resumed. The 1972 Regulation, like the 1959 Regulation, allowed owners to discard their waste land. To have some idea of the impact of this clause, we can return to Table III. Under each figure for resumable area we made three projections of tenant beneficiaries. The first estimate would represent a reform in which only cultivable

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\*We have used the figures for tenancy in 1960 because no later ones are officially available.

land was resumed, the second estimate is based on a reform in which land was resumed at random (e.g., taking contiguous plots from a randomly selected sector) or was resumed in the same ratio of cultivable to waste as characterized the total holding; the last projection approximates the effect of reform provisions: one-half of resumed area can be redistributed. Table III indicates that the difference in tenants potentially benefited varies from more than 200,000 to a minimum of 15,000, depending on the assumptions employed. Under the assumption of full implementation this difference ranges from 100,000 to 200,000 tenants. In fact, unless more land is resumed, the current provisions permit grant of land to fewer than 50,000 tenants. We project the potential, given full implementation and selection of land at random or in a prescribed ratio, as more than 300,000 tenant families. A solid case could be made for a different method selecting resumable area: large owners, because of their resources and contacts, are in a far better position to develop marginal land than the typical tenant; land development investments should be encouraged, not discouraged, by land reform policy. Moreover, the present method prevents rational planning of land use as land is often given up in non-contiguous bits and pieces. Our analysis supports a strong position taken by the Punjab Land Commission on the issue of owner selection in 1973 [40].

This section, in conjunction with the empirical analysis, leads to the conclusion that there is great scope in Pakistan for further land redistribution without—as critics of land reform speciously argue—“distributing poverty.” However, comprehensive policy suggestions are beyond the scope of this paper because so many factors are crucial to a balanced analysis. Land redistribution must be considered in the context of agricultural tax policy,<sup>10</sup> urban-rural distributive questions, and a number of other issues. For example, in formulating redistributive agrarian policy, it would be necessary to take into consideration the fact that income distribution in Pakistan is much more unequal in the urban than in the rural sector [43, pp. 9 and 26].

### Productivity Effects

The argument for land reform on productivity grounds is based on the observed tendency of small farmers to use land more intensively and to concentrate managerial and supervisory efforts. The economic argument, in simplest terms, is that the small farmer must maximize returns to his scarce factor, namely land, and can do so by adding his relatively abundant factor, labour, and complementary inputs to land to increase yields and cropping intensity.

Illustrating this phenomenon is rather difficult, however. For example, yields per acre may not consistently show the small farmers' supposed superiority because yields are dependent on a number of factors which, *in the existing institutional framework*, needlessly handicap small farmers vis-a-vis large farmers. Two especially important examples are those of credit and irrigation water [3, pp. 417-418].

Whereas the data on yields by size of holdings from various small scale studies are not comparable, and more comprehensive data do not exist for

<sup>10</sup>See [7, pp. 93-122].

Pakistan, the greater intensity of land use by small farmers seems clear. Tables IV and V illustrate this phenomenon. Not only do small holders crop a greater percentage of owned land, but they use each acre of cultivated land more intensively.

Table IV  
*Land Use by Size of Holding in Pakistan*

| Size of Holding | Cultivated Area as Percent of<br>Total Farm Area |
|-----------------|--------------------------------------------------|
| 0—12.5 acres    | 87.6                                             |
| 12.5—25 acres   | 85.5                                             |
| 25—50 acres     | 78.0                                             |
| 50—150 acres    | 59.5                                             |
| Above 150 acres | 34.0                                             |

Source: [27, p. 217]

Table V  
*Cropping Intensity by Size of Holding*

| Farm Size                      | Cropping Intensity |
|--------------------------------|--------------------|
| <b>I. Non-Tubewell Farmers</b> |                    |
| 0—12.5 acres                   | 118.3              |
| 12.6—25 acres                  | 90.3               |
| 25.1—50 acres                  | 88.4               |
| Above 50 acres                 | 77.8               |
| <b>II. Tubewell Farmers</b>    |                    |
| 0—12.5 acres                   | 136.7              |
| 12.6—25 acres                  | 130.5              |
| 25.1—50 acres                  | 133.0              |
| Above 50 acres                 | 116.6              |

Source: [14, p. 72]

To maximize returns to his limited land resources, the small holder increases the labour input per acre. We will cite two sets of data to illustrate this point, firstly because it re-emphasizes the intensity argument and secondly because we will later want to make an estimate of the employment effects of redistribution of land in small parcels. The first set of data comes from five



farm management projects widely scattered throughout Pakistan. The second comes from an especially thorough and comprehensive study of the Shadab Pilot Project near Lahore. Table VI presents labour inputs by size of holding.

Table VI  
*Labour Input Per Acre by Size of Holding*

| District        | Average Farm Size (acres) | Size Group                       | Labour (man-days) per Cultivated Acre |
|-----------------|---------------------------|----------------------------------|---------------------------------------|
| Kohat           |                           |                                  |                                       |
|                 | Unirrigated               |                                  |                                       |
|                 | 7.9                       | Small                            | 75.1                                  |
| Irrigated       | 20.8                      | Medium                           | 33.0                                  |
|                 | 17.6                      | Medium                           | 75.6                                  |
| Hazara          | 7.5                       | Small                            | 70.2                                  |
|                 | 16.5                      | Medium                           | 36.2                                  |
| Muzaffargarh    | 9.2                       | Small                            | 93.5                                  |
|                 | 22.1                      | Medium                           | 59.3                                  |
|                 | 71.0                      | Large                            | 44.8                                  |
| Hyderabad       | 8.4                       | Small                            | 74.0                                  |
|                 | 12.9                      | Medium                           | 48.1                                  |
|                 | 24.5                      | Large                            | 40.0                                  |
| Gujranwala      | 7.14                      | Small                            | 106.40                                |
|                 | 18.00                     | Medium                           | 65.52                                 |
|                 | 37.13                     | Large                            | 52.07                                 |
| Lahore (Shadab) | Size Group                | Labour Costs per Cultivated Acre |                                       |
|                 |                           | (Rs).                            | Index                                 |
|                 |                           | 0—6.25                           | 174.53                                |
|                 |                           | 6.25—12.50                       | 114.35                                |
|                 |                           | 12.50—25                         | 102.61                                |
|                 |                           | 25 and above                     | 80.94                                 |

Sources: Data for the first five districts calculated from [23-26 and 32].  
For Lahore, [51; pp 32 and 34].

The evidence presented thus far has shown that small holders make more intensive use of scarce land resources and employ techniques which are more labour intensive. Small farms thus seem to represent an organization of production well-suited to Pakistan's factor endowment. But what will be the impact on production when land is transferred from large holdings and distributed in small plots? Ideally, one would make a static comparison—what is

the output per acre on the land to be redistributed compared to that on comparable small holdings?—which could then be tempered with more dynamic consideration—what will be the impact of changes in scale on investment patterns and yield-increasing technological innovations? An empirical estimate of the static effects is feasible whereas the dynamic effects can only be discussed generally.

The negative potential of land redistribution is introduced when yield-increasing technology requires lumpy (indivisible) investment. The obvious examples in Pakistan are tubewells and tractors, though the yield effect of the latter is far from established. The argument has two points; in practical terms, only large holders have the resources to make large investments, and theoretically, below a certain size of holding, indivisible capital items become uneconomic for the farmer and will not be introduced. The first point is remediable by adjustments in the institutional credit system to accommodate poor farmers, whereas the latter requires more serious institutional rearrangements—joint or state ownership of tractors and tubewells, for example. Although the “green revolution” seed-fertilizer technology is, in theory, neutral to scale (perfectly divisible), there are complementarities (for instance, the assured supplemental water from a tubewell makes the growing of new varieties a less risky proposition), and some evidence suggests that the adoption of new technologies in Pakistan begins on larger farms and spreads to small farms after benefits are demonstrated [14, pp. 68-87]. However, the record of small farmers in Pakistan in adopting the new seed-fertilizer technology is quite impressive, even in the face of resource constraints [3].

Although there may be some decline in the rate of technological change through scale effects (unless the Government takes preventive measures), this negative dynamic effect should be more than offset by the new investment in land development by tenants and new owners under the impact of the reform, as discussed later.

Leaving aside the scale impact on investment and technological change, we will use the best available data to estimate the production change which would result from a redistribution of land, given current patterns of output on different size farms. Ideally, we would use for this comparison data from holdings of the size affected by the reform and from areas where land is being resumed, but no such data exist for Pakistan.

The most comprehensive sources on output by farm size are [44 and 45]. These sources suffer from the small sample size, and the output figures on large farms seem very low, but the farms were carefully selected to represent conditions in the Punjab. The confidence we may place in the representativeness of these figures is somewhat increased by the fact that the average gross income per cultivated acre (Rs. 290/-) between 1966-67 and 1968-69 in the sample closely approximated the average for West Pakistan for the same period. Unfortunately, all farms larger than 50 acres are lumped together so that we cannot separate the really large farms which will yield surplus area. This factor presumably biases the differences between large and small holdings on the low side since output per acre seems to be a decreasing function of farm size. Table VII presents the data.

Table VII

*Estimation of Per Acre Output Increase due to Land Redistribution*

| Size of Holdings                                     | Gross Income<br>per Acre <sup>1</sup><br>Cultivated | Cultivated Area<br>as a Proportion<br>of Owned Area <sup>2</sup> | Income per Acre<br>Owned = (2) × (3) |
|------------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------|--------------------------------------|
| 1                                                    | 2                                                   | 3                                                                | 4                                    |
|                                                      | Rs.                                                 | Ratio                                                            | Rs.                                  |
| <b>A. Irrigated Area.</b>                            |                                                     |                                                                  |                                      |
| (i) Up to 12.5 acres                                 | 467.78                                              | .8759                                                            | 409.33                               |
| (ii) 12.6-25.0 acres                                 | 391.51                                              | .8545                                                            | 334.55                               |
| (iii) 25.1-50.0 acres                                | 258.99                                              | .7802                                                            | 206.40                               |
| (iv) above 50.0 acres                                | 134.35                                              | .4880                                                            | 65.56                                |
| <b>B. Barani Areas.</b>                              |                                                     |                                                                  |                                      |
| (i) Up to 12.5 acres                                 | 277.75                                              | .8759                                                            | 243.28                               |
| (ii) 12.5—25.0 acres                                 | 172.81                                              | .8545                                                            | 147.67                               |
| (iii) 25.1-50.0 acres                                | 42.69                                               | .7802                                                            | 33.31                                |
| (iv) above 50.0 acres                                | 40.45                                               | .4880                                                            | 19.74                                |
| <b>C. Income Increase per<br/>Acre Redistributed</b> |                                                     |                                                                  |                                      |
| (i) Irrigated Areas<br>(A-i) — (A-iv)                | 333.43                                              | —                                                                | 344.17                               |
| (ii) Barani Areas<br>(B-i) — (B-iv)                  | 237.30                                              | —                                                                | 223.54                               |
| (iii) Over all <sup>3</sup>                          | 301.38                                              | —                                                                | 304.76                               |

Source: Col. 2 Calculation based on [44 and 45]  
Col. 3 from [55, pp. 328-31]

<sup>1</sup>Represents a three-year average for the period 1966-67 to 1968-69.

<sup>2</sup>The same ratios are used for *barani* and irrigated areas as separate figures were not available.

<sup>3</sup>Includes 2/3 of (C-i) plus 1/3 of (C-ii).

The calculations in Table VII suggest that for every acre of redistributed land involving a change in scale of operation, there will be an increase in gross farm income of Rs. 301.00 per acre cultivated and Rs. 304.76 per acre owned. We cannot project with certainty these figures to the land actually redistributed as much of the resumed area is waste and may or may not become productive. But despite its defects, the sample is more suggestive of the impact of land redistribution than are the small-scale studies, and it includes some very extensive, low productivity farms of the type affected by the ceiling. Because it is important to establish firmly the direction, if not the exact magnitude, of the output effect, we present below data from one of the best of the small-scale studies.

The Shadab Pilot Project is a Government showpiece of intensive, integrated rural development. The farms in this sample are more homogeneous, more intensively cultivated and more commercialized than the broader sample used in Table VII. Moreover, we cannot make the kind of comparison that would be ideal because large farms are not disaggregated but lumped together in the category "greater than 25 acres." Certainly farms in the 25-50 acre category are more likely to resemble the intensive patterns of cultivation characteristic of small farms than the extensive pattern of the very large farms affected by the ceiling provisions. Thus we would not expect large yield differences, but merely note that the differences are consistently in the same direction.<sup>11</sup>

Table VIII  
*Output Per Acre by Size of Holding in the Shadab Pilot Project*

| Farm Size<br>(Acres) | Gross Income Per<br>Cultivated Acre<br>(Rs.) | Gross Income Per<br>Farm Acre<br>(Rs.) |
|----------------------|----------------------------------------------|----------------------------------------|
| (a) 0—6.25           | 758.93                                       | 658.96                                 |
| (b) 6.25—12.50       | 691.64                                       | 620.92                                 |
| (c) 12.50—25.0       | 685.39                                       | 593.09                                 |
| (d) Above 25         | 684.18                                       | 606.25                                 |

Source: [51, p. 59]

We conclude that the redistribution of land from large holdings to small operators should increase output per acre per year, particularly if the present disabilities of small farmers in obtaining inputs are eased. This conclusion strongly suggests that the fear of small holdings, as embodied in the "impartibility" clause of MLR 115, though of long standing and wide acceptance, is unjustified on productivity grounds. The economic impact of the clause prohibiting subdivision of fifty-acre holdings appears to be negative in the light of the best available evidence on output (Table VII and VIII) and employment (Table VI).

From the per acre estimate in Table VII, we can make aggregate estimates, with several qualifications. One troublesome point in this procedure is that it assumes approximate equality of soil (etc.) across the farm size groups. This assumption is problematic as the best irrigated and most fertile areas have probably attracted and held larger populations historically, resulting in greater subdivision and a smaller operational size of holdings (though *ownership* of such land may be concentrated in very large holdings). This factor probably biases our estimates of productivity increases on the high side.

A second problem in projecting the aggregate productivity increase is that not all land resumed and redistributed will have been previously operated in holdings as large as the ownership size. Very large farms are often operated by tenants on very small plots. The average size of a tenanted holding was under 10 acres in 1960 [27, p. 56]. On these farms, therefore, the projected increases in productivity through decreases in scale of operations do not apply.

<sup>11</sup>The data as reported in the study do not allow statistical analysis to determine the significance of these differences.

In order to solve this latter problem, we will take one-third of the cultivable resumed land as self-cultivated, reflecting the approximate ratio in incomplete returns to the Federal Land Commission. On the resumed land which was provisionally tenanted, we cannot project productivity increases based on change in the scale of operation though there may be increases in yields due to the change of operator's status from tenant to owner as is discussed later.

Table IX projects the output effects of the reforms resulting from change in the size of operational unit. Two estimates are made, one based on the authors' estimate of resumable area, the second on published data on implementation as of early 1974.

Table IX  
*Aggregate Output Gains from Land Redistribution*

|                                                                            | Based on Authors'<br>Estimate | Based on Official<br>Figures |
|----------------------------------------------------------------------------|-------------------------------|------------------------------|
| 1                                                                          | 2                             | 3                            |
| A. Resumable Land Area<br>(000 acres)                                      | 2,800                         | 850                          |
| (i) Cultivable Resumable Area<br>(A) $\times$ (0.50)<br>(000 acres)        | 1,400                         | 425                          |
| (ii) Self-Cultivated Resumable<br>Area (A-i) $\times$ (1/3)<br>(000 acres) | 467                           | 142                          |
| B. Productivity Gain Per Acre (Rs.)                                        | 304.76                        | 304.76                       |
| C. Total Production Increase<br>(B) $\times$ (A-ii)<br>(Rs. million)       | 142.32                        | 43.28                        |
| D. As percentage of Agricultural<br>Income*                                | 0.71                          | 0.21                         |

Sources [21, p. 8 and Table III]

\*Gross agricultural product at current prices was Rs. 20,155 million in 1972-73.

The table is self-explanatory. The estimate should approximate the impact if land of average quality were redistributed, assuming that the productivity data in the sample are accurate. If our estimate of resumable area is reasonable, the differences between columns 2 and 3 reflect part of the social cost of faulty implementation.

#### Other Productivity Gains

Table IX treats yield increases resulting from changes in the scale of operations. Can we expect significant productivity gains from a change of tenurial status which does not alter the size of operational holding, or from the security of tenure provision and other tenancy reforms?

Since only a small percentage of the total number of tenants will receive land, given the present ceilings (see Table III), and tenants operated 45% of the cultivated area according to the last Census of Agriculture,<sup>12</sup> the question of productivity effects on tenanted holdings is a crucial one. There are, theoretically, two constraints on increasing productivity on tenanted farms which are addressed by MLR 115, and one which is not:

(1) To the extent that tenant farmers are poor, lack of resources constrains investment on both production capital (inputs) and land development (levelling, bunding, water management, etc.). Long-term credit is typically not available to tenants.

(2) Even if resources are available, permanent land improvements are clearly irrational if the tenant may lose his plot at any time, and thus reap none of the benefits of the investment.

(3) The share-cropping situation, in effect, imposes a 50% tax on output, the rent paid to the owner, decreasing the marginal return to investments in both working capital and land development.

The constraints on developmental (land improvement) investment are most clearly eased for those tenants who receive land. As owners, escaping the financial burden of paying rent, they should have increased ability and incentive to make long-term improvements and invest in higher levels of inputs. Moreover, long-term credit is available to land owners from various institutional sources.

We may expect productivity-increasing investments of a comparable kind from the security-of-tenure provisions of MLR 115, but only to the extent that tenants are confident that enforcement of the clause forbidding ejection, except on orders from a revenue court for just cause, will be consistent, rigorous, dependable, and timely. If permanently and certainly assured of land use rights, tenants should have added incentive to invest in land development projects which would increase productivity over time provided their income position or access to credit allows such investment. Moreover, to the extent that the income redistribution clauses pertaining to tenancy, discussed later, are enforced, the resource constraint on increased levels of inputs and long-term investment, wherever operative, will be eased.

The third disincentive to tenant productivity is not addressed by MLR 115. A clear disincentive to permanent land improvements is that the tenant receives only one-half of the increase in yields. Many investments may thus not prove to be economically rational from the tenant's perspective, though yields would increase, unless the returns are very high and certain, even if security of tenure is assumed. Moreover, optimal levels of inputs,<sup>13</sup> such as labour, may not be applied because the marginal returns are low, as one-half of the produce goes to the landlord. In the Shadab Survey, the family and permanent hired labour input per cultivated acre on tenant farms was only 80% of that found on owner and owner-cum-tenant farms [51, p. 40].

<sup>12</sup>This percentage is almost certainly much less today, though the relevant data are not yet available in comprehensive form.

<sup>13</sup>From a yield perspective.

There are again no comprehensive data that would allow direct tenant-owner comparisons on a large scale, but the Shadab data show gross output per cultivated acre on tenant farms to be Rs. 610.11 compared to Rs. 742.29 for owner-operated farms. These data are suggestive but are not sufficient for arguing the productivity case for peasant proprietorship over tenancy and obviously do not allow quantification of the impact of the structural change.<sup>14</sup> But both logic and evidence argue that there are productivity grounds for re-evaluating the adequacy of the tenancy situation and reform.<sup>15</sup>

One final hypothetical productivity gain should be mentioned. To the extent that large holders wish to retain their level of income and standard of living, compensation for the loss of resumed area may be made in terms of intensifying operations, crop diversification, tubewell installation, mechanization, etc. From this perspective, it is important that MLR 115 offers no compensation for resumption of land. We have presented data to suggest that large holdings are not farmed intensively. Because there is scope for substituting intensive for extensive methods to retain a given flow of income from the land, the absence of monetary compensation should serve as an impetus to higher productivity on large farms.<sup>16</sup>

### Income Redistribution

A major objective of MLR 115 is to redistribute income from the rural wealthy to the rural poor. The law provides for three kinds of redistribution, all from owners to tenants. First, tenants who receive land equal to their tenanted holding will be benefited to the extent of the rent formerly paid minus the portion of costs which were once paid by landlords, such as land revenue and water rates, for which the new owners are solely responsible. Second, tenants who remain tenants will be benefited by the requirement that landlords totally finance seed costs, water rates, and land revenue and its cesses. Third, tenants who receive land in addition to their former tenanted holding (for example, a tenant with ten acres would be eligible for an additional 2.5 acres) would be benefited to the extent of the net income of the additional land.<sup>17</sup>

To calculate the value of the first type of transfer, we have used a figure of Rs. 147.6 per acre as a rental value. This estimate was obtained by weighting the rental values of class "A" land under various crops as given by the Agricultural Credit Division of the United Bank Limited [48] by the percentage of total area occupied by those crops. For the additional tax liability on new owners, we took one-half of the average tax liability for farms in the less-than-12.5 acre class; landlords and tenants were assumed to have shared this burden before the reforms, as this is the usual practice [21, Table 8].

<sup>14</sup>For a broader survey of disparate evidence on this point in the context of new technology, which remains inconclusive, see [3, *passim*].

<sup>15</sup>The controversy on the productivity effect of share tenancy is too long and complex to treat here as there is considerable disagreement. The normative grounds for a land-to-the-tiller reform are stated simply. The landlord typically serves no economic function "that cannot be performed by public authority or the cultivators themselves" [33, p. 11], but consumes a large percentage of the total output.

<sup>16</sup>For evidence that productivity increases of this kind followed land reforms in Mexico, see Warriner, [43, pp. 50, 241 and footnote 1, on p. 241].

<sup>17</sup>Because this kind of redistribution cannot be separated from the first type with currently available data, the two are calculated together, biasing the estimate slightly on the low side.

To estimate the magnitude of the second type of redistribution, i.e., the regulation of tenurial terms, we halved the average tax liability on farms in the size class greater than 50 acres [21, Table 8], again reckoning that what was shared before has now become the sole responsibility of one party. The cost of seeds was computed from the UBL study [48], again weighting the seed prices by the percentage of cropped area covered by the relevant crop, and assuming that costs were previously shared. The results are summarized in Table X. Two calculations of the impact have been made, using the two familiar estimates for redistributable area.

Table X  
*Income Redistribution Impact of Recent Land Reforms*

|                                                                                |            |
|--------------------------------------------------------------------------------|------------|
| <b>I. Proprietary Rights</b>                                                   |            |
| A. Redistributed Rent (Rs./Acre)                                               | 147.60     |
| B. Additional Tax on New Owners (Rs./Acre)                                     | 11.87      |
| C. Net Redistributed Income (A-B) (Rs./Acre)                                   | 135.73     |
| D. Total Redistribution in favour of new owners.                               |            |
| (i) Using Authors' Estimate of Redistributable Area.* (Rs. 000)                | 190,022    |
| (ii) Using Government Estimate of Redistributable Area** (Rs. 000)             | 57,685     |
| <b>II. Tenurial Rights</b>                                                     |            |
| A. Total (1960) Tenanted Area (Acres)                                          | 19,195,084 |
| B. Tenanted Area After Reforms (Acres)                                         |            |
| (i) Authors' Estimate                                                          | 17,795,084 |
| (ii) Government Estimate                                                       | 18,770,084 |
| C. Shifted Tax Liability (Rs./Acre)                                            | 6.01       |
| D. Shifted Seed Cost                                                           | 16.24      |
| E. Total Cost Shifted                                                          | 22.25      |
| F. Total Redistributive Impact                                                 |            |
| (i) Authors' Estimate (Rs. 000)                                                | 395,941    |
| (ii) Government Estimate (Rs. 000)                                             | 417,634    |
| <b>III. Total Income Redistribution (D+E)</b>                                  |            |
| (i) Authors' Estimate (ID <sub>i</sub> +IIF <sub>i</sub> ) (Rs. 000)           | 585,963    |
| (ii) Government Estimate (ID <sub>ii</sub> +IIF <sub>ii</sub> ) (Rs. 000)      | 475,319    |
| <b>IV. Income Redistributed as % of National Agricultural Income, based on</b> |            |
| (i) Authors' Estimate                                                          | 2.91       |
| (ii) Government Estimate                                                       | 2.36       |

Source: For I, [48], II A [27] and II C & D [48]. IV is based on [21].

\* 1.4 million acres. [Our Table III]

\*\* 425,000 acres. (Our Table III)



Obviously the greatest redistributive impact is on those tenants who are made owners; in effect, their net income will be almost doubled. The redistributive impact is clearly heightened by the grant of land to tenants free of charge and the confiscation of land without compensation. For tenants who do not receive land, the effect seems undramatic: Rs. 22.25 per acre. Yet, with an average tenanted farm size of about ten acres, even this modest change should improve the quality of life and resource position of a great number of agriculturalists. Unfortunately, the regulation of tenancy terms is the most difficult of land reform measures to enforce and widespread evasion is almost certain.

The above estimate is perhaps on the high side as the costs of production are figured on the basis of quality seeds on quality land; clearly the low grade land which is certain to constitute the bulk of the resumed area will command lower tax and water rates and rents. On the other hand, the figures apply to a single cropping situation; at least some of the redistributed land should allow multiple cropping and hence a greater per acre annual distribution. Moreover, there will be a significant increase in the income of many poor farmers from the productivity gains calculated in section 3.2 above as well as from output increases expected (but not quantified) as a result of tenancy reform.

Our figures suggest an income redistribution of between Rs. 47.5 and 58.6 crores. These figures confirm an estimate by the head of the Federal Land Commission of Rs. 47.0 crores [19]. It is interesting to contrast these figures with alternatives for redistributing income. For example, if all tenanted land had been made over to tenants as owned property, the redistributed income would have been more than Rs. 260 crores, or between four and five times the amount estimated above. This measure would have also obviated the need for constant policing of tenant-landlord affairs, a taxing and virtually impossible task. On the other hand, if no tenanted land whatsoever had been redistributed, but the tenancy provisions enacted, assuming full implementation, the net impact would have been a transfer of income to tenants in the aggregate of about Rs. 43 crores, or somewhat less than the two-pronged approach actually adopted. The differences in these methods of income redistribution via land reform lie not only in the magnitude of the impact, but in the recurrent systemic costs incurred and the permanence of the effect; on both counts, though the initial cost in political resources is greater, indeed enormous, the land-to-the-tiller policy seems obviously superior.

### **Employment Effects**

As illustrated above (Table VI) one characteristic of small holdings in Pakistan is high labour inputs per cultivated acre. Thus every cultivable acre redistributed from large holdings to small holdings should generate some additional demand for labour. Since one of the policy objectives of the reforms was to reduce rural unemployment, it seems important to investigate this effect.<sup>18</sup>

Again the lack of strictly comparable and comprehensive data hinders analysis. Ideally, one would like to know the labour input pattern on those very large holdings which will yield redistributable land and compare the findings to land of comparable quality and situation which is in tilled small units. The information which would allow this exercise does not exist. But

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<sup>18</sup>See also [42], for a broader perspective.

as the tables we presented earlier indicate, there is no doubt that the redistribution of land will generate additional demand for labour.

The Farm Management Projects divide holdings into three size categories, small, medium, and large, corresponding to less than 14 acres, 14-28 acres, and greater than 28 acres respectively. The small size group roughly corresponds to the size of holdings being distributed under the reforms; the large size group, since it includes any farm larger than 28 acres, cannot be taken as representative of the large farms which will yield redistributable land. Therefore, the estimate based on the difference in labour inputs between small and large farms derived from these data is necessarily low, as labour inputs per acre decrease with increase in farm size. We have only two districts which include farms in all size categories which are comparable. Projecting from Muzaffargarh and Gujranwala districts to the land redistributed in Pakistan is problematic, of course, but there is no information available on the characteristics of the land actually resumed, and there is no compelling reason not to use these figures as representative. Moreover, Table VI suggests that the difference in labour inputs per acre between different sizes of farms is fairly stable across districts.

The difference in labour inputs per cultivated acre in the Muzaffargarh Farm Management Project [26] between large and small farms was reported as 48.7 man-days per year. The data are for 1962-63; any changes since that time are probably insignificant, though increased use of tubewells should have increased cropping intensity on large farms at the same time that tractorization has decreased labour inputs per acre.<sup>19</sup> The difference in Gujranwala, a 3-year average published in 1971, was 54.33 man-days (Table VI). An average of the two differences yields 51.52 man-days per acre. Table XI projects the total impact based on the two estimates of resumed area used previously (in Table IX) which account for the fact that not all redistributed land will result in a change in the scale of operations and hence an employment effect.

Table XI

*Employment Effects of Land Redistribution*

|                                                               | Estimate A.<br>(Authors) | Estimate B.<br>(Official Data) |
|---------------------------------------------------------------|--------------------------|--------------------------------|
| I. Self-Cultivated Resumable Area<br>(000 acres)              | 467                      | 142                            |
| II. Increase in Labour Input<br>(man-days/acre)               | 51.52                    | 51.52                          |
| III. Total Increase in Demand for Labour<br>(man-days)        | 24,059,840               | 7,315,840                      |
| IV. Man-Years of Employment at 300<br>days per year (III/300) | 80,199                   | 24,386                         |

Source: Calculations based on [26 & 32].

<sup>19</sup>This point is extremely controversial; all of the information on which our position is based has not yet been released for citation, but see [17] by permission of the author.

Since there is no clear indication whether or not Pakistan suffers from rural unemployment, the impact of this increase in demand for labour is indeterminate. If there is no large rural labour surplus, we may expect wages to rise, benefiting the poorest of agricultural classes, the landless labourers. We may also anticipate additional inputs of family labour, raising the income of small farmers (assuming that the marginal productivity of labour is positive). A recent study by Jerry Eckert does suggest that temporary farm labourers in Punjab are seriously underemployed [11, pp. 42-59]. If the increased demand cannot be met by increased family labour and casual labour, an impetus will be added to the already considerable pressure for mechanization. The Shadab Survey indicates that an average of 88% of the labour inputs on small (less than 12.5 acre) farms is family labour; only 1.5% is permanent hired labour and 11% casual labour [51, p. 33]. Thus we may expect that the bulk of the increase in demand for labour will be met by increase in family labour if it can be made available. The Eckert study cited above indicates that such increases in family labour opportunities would slow the migration of poor rural people to the towns in search of work [11, pp. 70-71].

Table XI estimates only that increase in demand for labour resulting from change in scale of operation as the landless receive formerly self-cultivated land from large holdings. This effect applies to only one-third of the cultivable resumed area, the remainder having been tenanted before the reforms, and thus does not present the full scope of employment effects. Even this partial estimate shows a range of between 24,000 and 80,000 additional man-years. To the extent that large owners intensify operations and tenants increase investments as a result of the reforms, additional demand for labour will be generated. Moreover, development operations on marginal or waste land by new owners should create considerable scope for employment, provided that financing is available.

The gap between the two estimates in Table XI, as in earlier examples, is part of the social cost of less than full implementation.

## Problems of Implementation

The *sine qua non* for realization of even the lowest level of benefits we have estimated is effective implementation of the reform measures. The most serious potential obstacles are administrative incompetence and irregularities, aggravated by the social and political strength of landlords vis-a-vis tenants, and the possibility of legal complications.

### (a) Administration

The number, character, and complexity of the provisions of MLR 115 underline a general rule in land reforms; successful implementation requires elaborate, honest, and efficient administrative machinery. Difficult changes must be enforced in isolated rural areas where most of the people are illiterate and control of land of primary salience. Under the reform provisions, implementation has been entrusted to the land revenue administration. It has been pointed out repeatedly [28, p. 36, and 13, pp. 47-69] that the land revenue officers, especially at the lower levels, the key functionaries of the implementation programme, are corrupt; misuse of power in pursuit of their personal interests is a characteristic feature. In such circumstances the delegation of more powers and additional duties to the revenue administration enhances the likelihood of malad-

ministration and consequently may lessen the impact of the reforms. The discretionary powers provided by various clauses (e.g., in allowing a *bona fide* transfer) increase the potential difficulties. Moreover, it is widely recognized [49, pp. 208 and 238; 18, pp. 62-75] that without local participation in agrarian reforms, the task of collecting adequate and accurate information and minimizing evasions is greatly complicated and the impact of reforms correspondingly vitiated. The administrative arrangements in MLR 115 make no provision for local involvement and seem to discourage non-official inputs with the injunction: "No court shall take cognizance of an offence under this regulation except on a complaint in writing made by order of, or under authority from, the Commission" [1, p. 17].

### (b) Landlord-Tenant Imbalances

In agrarian societies, land ownership confers more than economic strength. Where agriculture is virtually the sole source of income, a number of social and political values are attached to the land. For a number of reasons, the landlord is typically in a far better position than the tenant to influence officials, including superior financial resources, political contacts, cultural and class affinities, and education. In a society in which professional norms of conduct are often subordinated to traditional contacts and considerations, attempts at evasion of land reforms through access to the bureaucracy are inevitable. Even in the face of government attempts to curb favouritism and corruption, the inertia of a social order which has evolved over centuries can hardly be overcome in the span of a few years.

In contrast to landowners, tenants are far more likely to be uninformed, illiterate, and socially depressed. They neither possess political resources and contacts nor enjoy social position for cultivating officials. This imbalance suggests that even for those tenants who learn of and fully comprehend the reform provisions, the strength of the landlord's position will make establishing and retaining the rights and benefits problematic. The historical precedents in Pakistan point to the dangers. Under the provisions of the Punjab Tenancy Act [36, p. 126], the landlord's share of gross produce was reduced from 50 to 40 percent. However, implementation was ineffective and landlords continued to collect half the harvest; tenants refrained from demanding enforcement in order to avoid antagonizing their landlords. Moreover, the Planning Commission has noted [36, p. 127] that even for those tenants who demanded their rights, the outcome of the litigation often depended more on the size of the landlord than on the law. In reviewing the overall effects of the Sind Tenancy Act of 1950, Sir Malcolm Darling concluded [8, p. 48] that the *hari* was typically too helpless to take advantage of the law's provisions and in many cases totally ignorant of the Act. He added insightfully: "Formal eviction is not necessary; a landlord can always make things so uncomfortable for a tenant that he leaves of his own accord" [36, p. 315].

Regulation of the relations between landlords and tenants, as in specifying rental shares, etc., requires continuous supervision and intervention, representing a serious drain of administrative energies. Historically, tenancy regulation has been vitiated by the superior power and contacts of landowners; in particular, fear of eviction typically prevents tenants from demanding the legislated benefits. Regulation of produce shares in Pakistan has proved unenforceable. The possibility of eviction or victimization can never really be

ruled out by the tenant, as administrators come and go, some more honest and sympathetic than others. Moreover, even very active and honest supervision of tenancy regulations may prove inadequate for assuring a permanent redistribution of income from the landlord to the actual cultivator. Increased population on the land and technological change, for example, typically generate pressure for upward revision of the landowner's share. More practically, active supervision and intervention on behalf of millions of tenants may well be beyond the administrative system's capacity. The additional regulative burdens not only sap administrative energies and resources, but create more opportunities for abuse and corruption. The alternatives to the supervision-intervention regulative model would be either to adopt a *laissez faire* policy, foregoing any attempt to intervene, or to make the actual cultivator the owner of the land. Adequate treatment of these options demands more space than is available here but is a matter worthy of both research and consideration.

### (c) Implementation and Legal Disputes

The history of land reforms in a variety of settings suggests that obstruction and complications in the courts may lead to crippling delays and vitiate the thrust of land reforms. To cite but one example from Pakistan, the Planning Commission reported [36, p. 125] that "in 1954 the then Government of Sind issued orders abolishing *Jagir* rights but they were challenged in the court and and were never enforced." Not only may litigation thwart reform objectives (e.g., tenant evictions which cannot be *immediately* reversed will intimidate sharecroppers and defeat the tenancy provisions), but valuable time and financial resources of the farmers are tied up in totally unproductive activity. In view of these possibilities, it is fortunate that the regulations place land reform provisions beyond challenge in the courts. Moreover, the Central Land Commission is explicitly charged with the responsibility of trouble-shooting for the provincial land commissions in the field of legal complications. But certain provisions are almost certain to create legal difficulties. Indeed, at one stage of the implementation process the figures reported showed as much resumed land area tied up in litigation as was distributed to tenants [5].

Any increase in the already high level of wasteful land litigation merely redistributes income from cultivators to lawyers and corrupt officials, representing a negative economic potential and suggesting the need for special efforts by the Land Commission.

### *De Facto* Ceiling and Implementation

The stated ceiling on size of holding was 150 acres of irrigated land or 300 acres of un-irrigated land, or the equivalent combination thereof, or 14,000 produce index units (assuming ownership of a tractor or tubewell). Our calculations show the higher PIU figure gives *de jure* operative average provincial ceilings of between 318 and 519 acres or an all Pakistan average of 350 acres. By "*de facto* ceiling" we mean the average amount of land actually retained per declarant. Two sources of published data from early 1974 [21, p. 21, and 30, p. 6] allow for calculation of *de facto* ceilings. The data are incomplete but enough cases have been handled to indicate clearly the average land retained per owner.

Table XII  
De Facto Individual Ceilings under MLR 115

|                                   | Source A* | Source B** |
|-----------------------------------|-----------|------------|
| A. Number of owners who declared  | 12,000*** | 11,990     |
| B. Number of owners affected      | 1,897     | 2,048      |
| C. Area Owned (000 acres)         | 1,829     | 1,755      |
| D. Area Retained (000 acres)      | 1,042     | 905        |
| E. Area Resumed (000 acres)       | 787       | 850        |
| F. Ceiling ( $D \div B$ ) (acres) | 549       | 442        |

Sources: \* [30, p. 6]  
 \*\* [21, p. 21]  
 \*\*\* [31, p. 5]

As Table XII illustrates, the ratio of affected owners to declarants is very low, reflecting the combined effect of the mechanization bonus clause and the amendments which liberalized criteria for legitimate transfers; only about one-sixth of those who filed declarations surrendered any land. The operative average *de facto* ceiling was between 442 and 549 acres, depending on the state of case processing at the time of reporting; there have been dramatic variations over time. The gap between *de jure* and *de facto* ceilings represents the cost of maladministration and the liberal transfer provisions.

## Conclusions

The most important conclusion that emerges from our analysis is that in Pakistan, as in most non-industrial countries [10], there is a very solid case for the kind of land reforms envisioned by the Government in terms of productivity, income distribution, and employment. Although a number of observers have been quite pessimistic about the impact of MLR 115,<sup>20</sup> this exercise has demonstrated very real potentialities. It has also, however, highlighted quite formidable obstacles to their realization.

The best evidence we have been able to consult indicates that every acre of land redistributed from large holdings to new small holders should have positive employment, productivity, and redistributive effects. The aggregate impact of land redistribution will be small in percentage terms, as the amount of cultivable land resumed to date has been less than 1% of the cultivated area. The number of tenants who will receive land will come to between 2% and 3% of the total number of tenants unless more land is resumed. Our analysis supports recent official statements that a great deal of land has been concealed and can be resumed through reexamination of declarations to uncover fraudulent practices. However, the aggregate impact will still be limited by the relatively high ceiling, the clauses which effectively enhance the ceiling, and inevitably faulty implementation of ceiling provisions. Likewise, the redistribution of

<sup>20</sup>See, e.g., [50, pp. 15-16], [15], [12], [53], and [2].

income to tenants through new tenancy regulations is seriously jeopardized by the massive administrative difficulties involved. Indeed, there is no historical precedent for successful regulation of tenant-landlord relations in Pakistan, for reasons presented above, and effective implementation of MLR 115 in this respect will require Herculean efforts.

It is beyond the scope of this exercise to give adequate consideration to the policy implications of our analysis. It is easy to state that increased administrative efficiency, honesty, and vigilance would enhance all of the economic benefits posited in this paper; it is quite another matter to formulate workable means to that end. More distribution of land would benefit more landless tenants, but again the practical means to that end, in the present situation, are not clear. Thus we will limit ourselves to a very clear policy recommendation which is of concern for realizing the potential benefits for those tenants and small owners who have received land under the new reforms.

The Land Reforms Committee of 1959 recognized that the tenants receiving land under that reform would not be in a position to supply adequate working or developmental capital to their new holdings, potentially blunting the productivity and income redistribution effects of the reform. Therefore, three crores of rupees were set aside for credit for new owners, on a scale of up to Rs. 1,000 per tenant.<sup>21</sup> In contrast, no special or comprehensive provisions have been made for the credit needs of new owners under the present reforms.<sup>22</sup> It is important that this defect be remedied, especially since much of the land surrendered is marginal or undeveloped and would require a great deal of developmental investment to be made productive. A Ministry of Agriculture estimate put the credit needs generated by the reforms at Rs. 100 crores, a figure which seems exaggerated but points to the urgency of special efforts [31, p. 6]. Some landless tenants lack even bullocks and implements. Likewise the higher costs of working capital resulting from the new technology and recent petroleum shortage make imperative special attention to the seasonal credit needs of new owners. The alternatives are bleak—indebtedness to traditional sources of finance with the possibility of eventual loss of land or failure to achieve maximum production, employment, and income benefits because of insufficient resources for inputs. The probability that landlord-tenant relations will seriously deteriorate as a consequence of the reforms means that traditional sources of capital for tenants may dry up, reinforcing the urgency of special credit provisions. At least a partial solution would be the issuing of passbooks simultaneously with the grant of land so that mobile teams from the Agriculture Development Bank could make on-the-spot loans.

The need for special efforts on behalf of small farmers in general in the fields of extension, marketing, etc., needs no elaboration, but these needs, like credit requirements, may be particularly acute for tenants who had previously had most decisions and relations mediated by their landlords.

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<sup>21</sup>Information supplied by the Chief Land Commissioner for the 1959 reforms. See also [16, pp. 183-189].

<sup>22</sup>Evidence is voluminous and consistent on this point; small farmers and tenants face severe difficulties in obtaining their credit needs from institutional agencies. For a recent study, see [34, Chapter IV]. However, an important beginning has been made by the Agricultural Credit Advisory Committee in issuing guidelines to insure special attention to the credit needs of poor farmers, through implementation remains problematic, and by the Agricultural Development Bank, through only a small percentage of the farming population is being benefitted.

## Appendix I

## Calculation of Operative Average Ceilings from Produce Index Units.

|                                                       | Punjab  | N.W.F.P. | Sind    | Baluchistan | West Pakistan |
|-------------------------------------------------------|---------|----------|---------|-------------|---------------|
| <b>I. Classes of Land</b>                             |         |          |         |             |               |
| <b>A. Canal Irrigated</b>                             |         |          |         |             |               |
| (i) Area (000 acres)                                  | 14,068  | 1,028    | 7,048   | 368         | 22,512        |
| (ii) Total P.I.U. (000 units)*                        | 731,429 | 62,162   | 192,812 | 9,936       | 996,341       |
| (iii) Per acre P.I.U.                                 | 52      | 60       | 27      | 47          | 44            |
| <b>B. Tubewell and Well Irrigated</b>                 |         |          |         |             |               |
| (i) Area (000 acres)                                  | 2,079   | 79       | —       | —           | 2,158         |
| (ii) Total P.I.U. (000 units)*                        | 114,376 | 5,983    | —       | —           | 120,359       |
| (iii) Per acre P.I.U.                                 | 55      | 76       | —       | —           | 56            |
| <b>C. Barani</b>                                      |         |          |         |             |               |
| (i) Area (000 acres)                                  | 6,443   | 1,614    | —       | —           | 8,057         |
| (ii) Total P.I.U. (000 Units)*                        |         |          |         |             |               |
| (iii) Per acre P.I.U.                                 |         |          |         |             |               |
| <b>D. Others</b>                                      |         |          |         |             |               |
| (i) Area (000 acres)                                  | 3,399   | 37       | —       | 431         | 807           |
| (ii) Total P.I.U. (000 Units)*                        | 10,372  | 1,117    | —       | 12,068      | 25,559        |
| (iii) Per acre P.I.U.                                 | 31      | 30       | —       | 28          | 32            |
| <b>E. TOTAL</b>                                       |         |          |         |             |               |
| (i) Area (000 acres)                                  | 22,929  | 2,758    | 7,048   | 799         | 33,534        |
| (ii) Total P.I.U. (000 units)*                        | 919,256 | 111,382  | 192,812 | 22,004      | 1,347,456     |
| (iii) Overall average P.I.U.                          | 44      | 40       | 27      | 28          | 40            |
| <b>II. Operative Ceilings</b>                         |         |          |         |             |               |
| A. Retainable area per individual holding (acres)**   | 318     | 350      | 519     | 500         | 350           |
| B. Average Value of Tractor-tubewell Bonus (acres)*** | 45      | 50       | 74      | 71          | 50            |

Sources: (i) [56, pp. 344-46] (ii) [57, pp. 1-70]

\* represents additions of district figures. District figures in turn were based on produce index units in each district weighted by its respective area falling under each source of irrigation in 1957-58.

\*\* Assumes the tractor-tubewell bonus of 2,000 P.I.U. and thus represents the total P.I.U. ceiling (14,000) divided by the average per acre P.I.U. for each province (E iii).

\*\*\* Represents the P.I.U. bonus of 2,000 divided by the average P.I.U. per acre (E iii) for each province.



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