

SURVEY OF COST OF PRODUCTION OF RAW COTTON



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INTRODUCTION

Recognizing the value of time series data on cotton production costs, the 39th Plenary Meeting of the ICAC instructed the Secretariat to conduct an updated survey of cotton production costs for presentation at the 40th Plenary Meeting. In addition, the Secretariat was asked to attempt to explain why differences exist in production costs for the same or similar cotton varieties under similar growing conditions in different countries. To accommodate this, respondents were requested to provide the necessary information.

The survey questionnaire was again sent to all member and non-member cotton producing countries. However, the rate of response was again unsatisfactory. A large number of countries, including some major producers, did not reply, and among those that replied were several whose responses were either incomplete, or departed substantially from the standard format. Consequently, they have been excluded from the annual sample for cost comparisons - over time or between countries. Such exclusions, together with non-responses, mean a limited sample for cost analysis. Thus, the latest annual cost comparisons for individual items are based on data for 12 countries which replied to the survey for the last two consecutive years. The average cost for these countries in the sample was not out of line with the average for all responding countries. However, as a limitation of this study, it should be borne in mind that many countries do not have accurate data on costs of production due to the lack of specific cost studies based on farm management methods. Hence, the Secretariat's findings should be used with caution. Furthermore, the information submitted often contains elements of subjective assessment. While comparisons between countries are difficult due to differences in methodology, subsidies for inputs provided by some countries, etc., comparisons over time face added problems due to fluctuations in exchange rates as well as changes in currency management practices adopted by certain countries.

In this survey cotton production costs are again expressed in terms of two main categories: direct and indirect costs. Direct costs are those that are clearly associated with physical production, and include on-farm production and harvesting costs, as well as off-farm costs such as transportation and ginning charges. Indirect or overhead costs include items such as management and land costs. The sum of these two categories constitutes the gross cost for producing seed cotton. The net cost for lint is obtained by subtracting the value of cotton seed from the gross cost. Net cost is also represented in terms of U.S. cents per pound.

Cotton production costs vary greatly among countries as well as among regions within a country, depending on such factors as the size of farms, extent of mechanization, methods of irrigation, application of fertilizers and other agricultural chemicals, and varieties grown. Of course, per unit cost is also a function of yield. Per hectare gross costs in 1980 ranged from as little as \$149 in Zaire to as high as \$4,476 in El Salvador (Summary Table 1). However, among the large cotton producing countries -- with annual production of 300,000 bales or more -- the spread was noticeably narrower, ranging from \$399 in Pakistan to \$2,004 in Guatemala. Moreover, there were also considerable differences within a country. In Mexico, for instance, gross cost per hectare ranged from \$1,005 in the Tapachula region to \$1,611 in Torreon. Similarly, in Turkey the cost was \$1,118 in the Cukurova region, but went up to \$1,742 in Antalya. Such differences are caused by the above cited factors and the fact that each region -- or even a part of a region -- may be characterized by a set of unique agro-climatic factors that affect the level of input use. Depending on these factors, costs have differed widely, even if the same variety of cotton was being produced.

Continuing the upward trend of the 1970's, costs of raw cotton production went up again significantly in 1980 from a year earlier. Based on the sample of 12 countries, per hectare gross cost grew by 17.4 percent, to \$1,207 (Summary Table 2), in line with an average increase of 18 percent in 1978 and 1979.

Increases in costs over the previous year were common to nearly all items. However, most of the increase came from large cost items, such as power and equipment, chemicals and fertilizers, and labor. For instance, power and equipment costs, constituting about 14 percent of the total cost, increased by 43 percent, to more than \$162 per hectare in 1980. Among the various countries, the cost for power and equipment rose by 133 percent in Iran, to \$70 per hectare. Substantial increases were also registered in Colombia, up 127 percent and in Australia, up 40 percent. The sharp increase was partly a result of rising costs of energy, but the increased level of use per hectare was also responsible. Another large cost item was agricultural chemicals and fertilizers, with 17 percent of the gross cost in 1980. The cost for this item showed a gain of nearly 19 percent, or over \$31 per hectare in absolute terms. Labor costs, accounting for one-fourth of the total gross cost on the average, also rose significantly - to nearly \$302 per hectare, up 19 percent compared to a year earlier.

Due to increasing cost and relative scarcity of labor during recent years, producers in a number of countries have replaced labor with machinery. For example, the labor shortage in Nicaragua is being alleviated by increased use of mechanical cotton pickers. However, capital costs for mechanization are high as it calls for heavy outlays for different farm activities, such as, careful preparation of the seed bed, precision planting and fertilization, crop protection through the use of modern equipment in pesticide application, and harvesting by mechanical pickers. Besides capital, these activities require a high level of initial research and a smooth and continuing dissemination of research results to farmers. Furthermore, to use mechanization effectively, the scale of farming becomes very important in order to achieve optimum utilization of machinery and equipment. In many developing countries, cotton farming is done mostly by small holders or by share-croppers. Mechanized cotton cultivation, therefore, would require a large-scale consolidation of small farms or widespread use of custom operations in order to use machinery efficiently. In the developing countries where cotton is generally produced under "traditional agriculture", power and equipment is mostly used in pre-harvesting activities, such as ploughing, etc. Based on all replies to our survey, power and equipment was not used in cotton harvesting in nearly two-thirds of the countries surveyed.

Irrigation costs were up by more than 12 percent in 1980 compared to the preceding year. Even though higher use of water was responsible for part of the increase, increased water charges accounted for a major proportion. Costs of an irrigated hectare of cotton were found to be significantly higher than for non-irrigated, not only because of the irrigation cost alone but also because of the generally higher costs of other associated inputs, such as more intensive use of fertilizers, herbicides, insecticides, etc. In Zimbabwe, for example, the cost of fertilizer for an irrigated hectare was on the average 25 percent higher than that for non-irrigated. Of course, owing to the higher productivity of irrigated cotton, the per pound lint cost is generally below that for non-irrigated. In the case of Zimbabwe, the cost was nearly 27 percent lower.

The sharp increase in prices of key inputs last year is thought to have caused declines in the level of their use in some countries. The point was clearly made in the replies, among others, by the Ivory Coast and Syria, with per hectare outlay on fertilizers in the former country declining by 27 percent, and of herbicides by 51 percent in the latter.

For the 12 countries analyzed here, off-farm direct costs per hectare (mainly accounted for by ginning costs) declined slightly in 1980 from a year earlier due, primarily, to sharply reduced yields in a number of sample countries. This was especially notable in the United States, Colombia and Turkey. Overhead costs went up by less than 5 percent compared to an average increase of nearly 8 percent in 1978 and 1979. The moderation in these costs was brought about by a decline in the rental value of land in a number of countries, even though management costs rose significantly.

Looking at the cost behavior during the past decade, the results of our studies of limited samples taken from each year's survey indicate that cotton production costs went up significantly in the early 1970's, largely because of the substantial increase in prices of oil and other energy sources. Thereafter, the increase in costs moderated for some years, but the uptrend was resumed during the last couple of years. This again is a reflection of sharp gains in energy prices as well as the high rate of inflation in general.

During recent years, most of the advance in production costs has been offset by increased productivity. The increase in per pound cost thus remained at a relatively moderate rate. Last year, however, in addition to the influence of rising input costs, the cost per pound of lint increased also due to the lower average yields. As a consequence, costs measured on a per-pound basis rose much more sharply than did costs per hectare. For the responding countries, net production costs for lint in 1980 ranged from 17 cents per pound in Zaire to \$2.10 for El Salvador (Summary Table 1). However, for nearly half of the responding countries the net cost per pound ranged from 50 cents to \$1.00

ENQUETE SUR LES COÛTS DE PRODUCTION DU COTON BRUT

INTRODUCTION

Reconnaissant la valeur de séries chronologiques de données portant sur les coûts de production du coton, la 39e Réunion plénière du CCIC a chargé le Secrétariat d'effectuer une enquête qui mette à jour les renseignements qu'il possédait au sujet des coûts de production du coton, et d'en présenter les résultats à la 40e Réunion plénière. En outre, le Secrétariat a été chargé d'essayer d'expliquer pourquoi il existe des différences de coûts de production du coton pour une variété identique ou analogue, cultivée dans des conditions analogues dans des pays différents. Les répondants ont été priés de fournir des informations permettant d'accomplir cette mission.

Le questionnaire utilisé pour l'enquête a été envoyé, comme les questionnaires précédents, à tous les pays producteurs de coton, qu'ils soient membres du Comité ou non. Le pourcentage de réponses a été malheureusement une fois encore peu satisfaisant. Un grand nombre de pays, parmi lesquels figurent plusieurs gros producteurs, n'ont pas répondu, et parmi ceux qui ont répondu, plusieurs ont fourni des renseignements incomplets ou qui s'écartaient nettement des modalités de présentation prévues. Ces pays ont donc été exclus de l'échantillon annuel servant à effectuer les comparaisons de coûts - dans le temps ou entre les pays. Ces exclusions, auxquelles il faut ajouter les pays n'ayant pas répondu, signifient qu'on ne disposait, aux fins de l'analyse des coûts, que d'un échantillon limité. C'est ainsi que les comparaisons annuelles de coûts les plus récentes concernant telle ou telle rubrique se fondent sur les données de 12 pays qui ont répondu à l'enquête pendant les deux dernières années consécutives. Dans le cas des pays qui constituent l'échantillon, le coût moyen ne s'écarte pas de la moyenne de tous les pays qui ont répondu. Cependant, il ne faut pas oublier qu'un grand nombre de pays ne possèdent pas de statistiques exactes au sujet des coûts de production, car il n'y a pas eu d'études particulières des coûts fondées sur les méthodes d'exploitation agricole; c'est là un élément qui limite la portée de la présente analyse. Il convient donc d'employer avec prudence les résultats auxquels le Secrétariat est parvenu. En outre, les informations fournies contiennent souvent des éléments d'évaluation subjective. S'il est vrai qu'il est difficile d'effectuer des comparaisons entre pays en raison des différences de méthodologie, de subventions accordées par certains pays aux facteurs de production, etc., les comparaisons dans le temps se heurtent à des problèmes supplémentaires en raison des fluctuations des taux de change, ainsi que des modifications apportées par certains pays à leurs pratiques de gestion monétaire.

La présente enquête exprime une fois encore les coûts de production du coton de deux façons principales, en les subdivisant en coûts directs et coûts indirects. Les coûts directs sont ceux qui sont clairement associés à la production physique; ils englobent les coûts de production et de cueillette dans l'exploitation, ainsi que des coûts hors exploitation tels que les frais de transport et d'égrenage. Les coûts indirects, ou frais généraux, englobent des éléments tels que les coûts de gestion et les frais d'exploitation des terres. La somme de ces deux catégories représente le coût brut de la production de coton-graine. On obtient le coût net du coton-fibre en soustrayant du coût brut la valeur de la graine de coton. Le coût net est également exprimé en cents des Etats-Unis la livre.

Les coûts de production du coton varient beaucoup entre les pays, et aussi entre les régions d'un même pays, en fonction de facteurs tels que la dimension des exploitations, le degré de mécanisation, les méthodes d'irrigation, l'épandage d'engrais, l'emploi d'autres produits chimiques agricoles et les variétés cultivées. Bien entendu, le prix unitaire est également fonction du rendement. En 1980, le coût brut à l'hectare allait de \$149 au Zaïre jusqu'à \$4.476 au El Salvador (Résumé, tableau 1). Cependant, parmi les pays gros producteurs de coton -- c'est-à-dire ayant une production de 300.000 balles ou plus -- l'éventail était beaucoup plus réduit, allant de \$399 au Pakistan à \$2.004 au Guatemala. En outre, des différences considérables se font jour à l'intérieur d'un pays. Au Mexique, par exemple, le coût

brut à l'hectare allait de \$1.005 dans la région de Tapachula à \$1.611 en Torreon. De même, en Turquie, le coût s'élevait à \$1.118 dans la région de Cukurova mais atteignait \$1.742 en Antalya. De telles différences s'expliquent par les éléments précités, et aussi par le fait que chaque région - voire chaque partie d'une région - peut se caractériser par un ensemble d'éléments agro-climatiques singuliers qui se répercutent sur le niveau d'emploi des facteurs de production. Selon ces éléments, les coûts présentent de profondes différences, même quand on cultive la même variété de coton.

Poursuivant le mouvement de hausse qui avait marqué les années soixante-dix, les coûts de production du coton brut ont de nouveau augmenté de façon sensible en 1980 par rapport à l'année précédente. Sur la base de l'échantillon de 12 pays, le coût brut à l'hectare s'est accru de 17,4 pour cent, pour atteindre \$1.207 (Résumé, tableau 2); en 1978 et 1979, l'augmentation moyenne avait été de 18 pour cent.

Des majorations des coûts par rapport à l'année précédente sont monnaie courante dans presque toutes les rubriques. Néanmoins, la plus grande partie de l'accroissement est imputable aux éléments les plus chers, tels que l'énergie et le matériel, les produits chimiques et les engrais, ainsi que la main-d'oeuvre. Par exemple, les frais d'énergie et de matériel, qui représentent environ 14 pour cent du total, ont augmenté de 43 pour cent, pour dépasser \$162 à l'hectare en 1980. Parmi les divers pays, le coût de l'énergie et du matériel s'est accru de 133 pour cent en Iran pour atteindre \$70 à l'hectare. Des accroissements importants ont également été enregistrés en Colombie (125 pour cent) et en Australie (40 pour cent). La forte majoration est attribuable en partie à la hausse du coût de l'énergie; cependant, l'intensification de l'utilisation à l'hectare y intervient également. Un autre élément important du coût est représenté par les produits chimiques agricoles et par les engrais, qui sont entrés pour 17 pour cent dans le coût brut en 1980. Cette rubrique a augmenté de près de 19 pour cent, pour dépasser, en chiffres absolus, \$31 à l'hectare. Les coûts de main-d'oeuvre, qui représentent le quart du coût brut total, en moyenne, ont également subi une hausse sensible et ont atteint près de \$302 à l'hectare, soit une majoration de 19 pour cent sur l'année précédente.

Vu la hausse des salaires et la pénurie relative de main-d'oeuvre de ces dernières années, les producteurs d'un certain nombre de pays ont remplacé les hommes par des machines. C'est ainsi qu'au Nicaragua on porte remède au manque de main-d'oeuvre en employant de plus en plus d'appareils de cueillette mécanique. Cependant, la mécanisation coûte cher car elle exige l'engagement de grosses dépenses pour divers travaux agricoles, tels qu'une préparation soignée des semis, un repiquage précis, un épandage d'engrais bien dosé, la protection des cultures par des appareils modernes d'application des pesticides et la cueillette à la machine. Ces travaux exigent non seulement des capitaux, mais aussi de nombreuses recherches préalables pour pouvoir diffuser les résultats de façon continue et constante auprès des agriculteurs. En outre, si l'on veut employer efficacement la mécanisation, l'échelle de l'exploitation prend une très grande importance afin d'utiliser de façon optimum les machines et le matériel. Dans de nombreux pays en développement, le coton est surtout cultivé par des petits exploitants ou par des métayers. La mécanisation de la culture du coton exigerait donc une vaste opération de remembrement des petites exploitations ou le recours généralisé à une exploitation à la demande, afin d'utiliser efficacement les machines. Or, dans les pays en développement où le coton se cultive en général dans le cadre de "l'agriculture traditionnelle", on se sert de l'énergie et du matériel surtout pour les travaux qui précèdent la cueillette, tels que le labourage, etc. D'après toutes les réponses à notre enquête, l'énergie et le matériel ne sont pas employés pour la cueillette du coton dans près des deux-tiers des pays étudiés.

Les coûts d'irrigation ont augmenté de plus de 12 pour cent en 1980 par rapport à l'année précédente. Bien qu'une utilisation accrue de l'eau explique une partie de l'augmentation, c'est la hausse des tarifs de l'eau qui en représente la plus grande partie. Les coûts d'un hectare de coton irrigué se sont révélés sensiblement plus élevés que ceux du coton non irrigué, non seulement en raison du coût de la seule irrigation, mais aussi à la suite des coûts généralement plus considérables des autres facteurs associés, tels que l'emploi plus intensif d'engrais, d'herbicides, d'insecticides, etc. Au Zimbabwe, par exemple, le coût des engrais pour un hectare sous irrigation dépassait de 25 pour cent en moyenne celui d'un hectare non irrigué. Bien entendu, en raison de la meilleure productivité du coton irrigué, le coût d'une livre de fibre est en général inférieur à celui du coton non irrigué. Dans le cas du Zimbabwe, la différence atteignait presque 27 pour cent.

On pense que, l'année dernière, la forte hausse des prix des principaux facteurs de production a fait diminuer leur niveau d'utilisation dans certains pays. Cette observation ressort clairement des réponses qu'ont fait parvenir, en particulier, la Côte d'Ivoire et la Syrie : dans le premier de ces pays, les dépenses consacrées aux engrais à l'hectare ont diminué de 27 pour cent tandis que, dans le deuxième pays, celles consacrées aux herbicides ont reculé de 51 pour cent.

Dans les 12 pays qui sont analysés ici, les coûts directs à l'hectare hors exploitation (qui se composent surtout des dépenses d'égrenage) ont légèrement reculé par rapport à l'année précédente, en raison surtout de la forte contraction des rendements dans un certain nombre de pays faisant partie de l'échantillon. C'est le cas en particulier des Etats-Unis, de la Colombie et de la Turquie. Les frais généraux ont augmenté de moins de 5 pour cent, contre un accroissement moyen de près de 8 pour cent en 1978 et 1979. La modération de ces coûts s'explique par une diminution de la valeur locative des terres dans un certain nombre de pays, même au regard d'une hausse sensible des coûts de gestion.

Si l'on examine le comportement des coûts durant les dix dernières années, les résultats de nos études portant sur les échantillons limités correspondant à chaque année d'enquête révèlent que les coûts de production du coton ont sensiblement augmenté au début des années soixante-dix, surtout à cause de la forte majoration du prix du pétrole et d'autres sources d'énergie. Par la suite, l'accroissement des coûts s'est modéré pendant quelques années, pour reprendre depuis deux ans. Il faut y voir une fois de plus les répercussions des hausses considérables des prix de l'énergie, ainsi que du taux élevé atteint en général par l'inflation.

Depuis quelques années, la plus grande partie de la hausse des coûts de production a été contrebalancée par une amélioration de la productivité. C'est pourquoi l'augmentation du coût à la livre est restée relativement modérée. Cependant, l'année dernière, le coût de la livre de fibre a augmenté non seulement sous l'influence de l'accroissement des coûts des facteurs de production mais aussi à la suite du fléchissement des rendements moyens. Par conséquent, les coûts moyens prenant la livre pour base ont beaucoup plus augmenté que les coûts à l'hectare. Dans le cas des pays qui ont répondu à l'enquête, les coûts nets de production ont variés, en 1980, entre 17 cents la livre au Zaïre et \$2.10 au El Salvador (Résumé, tableau 1). Cependant, pour près de la moitié des pays qui ont répondu, le coût net à la livre a été compris entre 50 cents et un dollar.

ENCUESTA ACERCA DE LOS COSTOS DE PRODUCCION DEL ALGODON EN RAMA

INTRODUCCION

En reconocimiento del valor de las series cronológicas de datos acerca de los costos de producción del algodón, la 39a. Reunión Plenaria del CCIA dio instrucciones a la Secretaría para que llevara a cabo una encuesta actualizada de los costos de producción de dicha fibra con objeto de presentarla ante la 40a. Reunión Plenaria. Se solicitó, además, de la Secretaría que tratara de explicar la razón de las diferencias existentes en los costos de producción de algodón de las mismas o similares variedades en condiciones semejantes de cultivo en diferentes países. Para satisfacer esa petición se encareció a los encuestados que proporcionaran la información necesaria.

El cuestionario de la encuesta volvió a enviarse a todos los países productores de algodón, tanto miembros como no miembros del CCIA. Sin embargo, el índice de respuestas fue de nuevo insatisfactorio. Un gran número de países, entre ellos algunos de los principales productores, no contestó al cuestionario y entre los que sí lo hicieron hubo varios cuyas respuestas fueron incompletas o bien se desviaron en grado considerable del formato ordinario. En consecuencia han sido excluidos de la muestra anual a los efectos de las comparaciones de costos, en el curso del tiempo o entre países. Tales exclusiones, aunadas a la carencia de respuestas, significan que se dispone de una muestra limitada para el análisis de costos. Por lo tanto, las últimas comparaciones de costos anuales con respecto a partidas individuales se basan en los datos correspondientes a 12 países que han respondido a la encuesta durante los dos últimos años consecutivos. El costo medio para esos países de la muestra no estuvo en discordancia con el promedio aplicable a todos los países que respondieron. Ahora bien, debe tenerse presente, como limitación de este estudio, que muchos países no tienen datos exactos acerca de los costos de producción debido a la falta de estudios específicos de costos fundamentados en métodos de administración de fincas. Por consiguiente, los datos recopilados por la Secretaría deben utilizarse con prudencia. Por otra parte, la información presentada contiene a menudo elementos de evaluación subjetiva. Si bien las comparaciones entre países son difíciles debido a diferencias en la metodología aplicada, a los subsidios para insumos proporcionados por algunos países, etc., las comparaciones hechas en el curso del tiempo encuentran problemas adicionales en razón de las fluctuaciones en los tipos de cambio así como de modificaciones en las prácticas de administración monetaria adoptadas por determinados países.

En esta encuesta los costos de producción del algodón vuelven a expresarse en términos de dos categorías principales: los costos directos y los indirectos. Son costos directos los que están claramente asociados con la producción física, y comprenden los de producción y cosecha en la finca, así como los costos fuera de ésta, tales como los cargos por transporte y desmoldado. Los costos indirectos, o generales, incluyen partidas como administración y costos de la tierra. La suma de esas dos categorías constituye el costo bruto de producir algodón con semilla. El costo neto de la fibra de algodón se obtiene sustrayendo del costo bruto el valor del algodón con semilla. El costo neto también se representa en términos de centavos de dólar de los Estados Unidos por libra.

Los costos de producción del algodón varían muchísimo, tanto entre países como entre regiones dentro de un país y depende de factores como el tamaño de las fincas, el grado de mecanización, los métodos de riego, la aplicación de fertilizantes y de otros productos agroquímicos, y de las variedades que se cultiven. Por supuesto, el costo unitario también depende del rendimiento. Los costos brutos por hectárea en 1980 oscilaron del bajo monto de \$149 en Zaire hasta el elevado nivel de \$4.476 en El Salvador (véase el Cuadro resumido 1). Ahora bien, entre los grandes países productores de algodón - con producción anual de 300.000 fardos o más- la diferencia fue apreciablemente más reducida, en una escala que fue de \$399 en el Pakistán hasta \$2.004 en Guatemala. Por otra parte también hubo diferencias considerables dentro del mismo país. En México, por ejemplo, el costo bruto por hectárea osciló desde \$1.005 en la región de Tapachula hasta \$1.611 en Torreón. De manera análoga, en Turquía el costo fue de \$1.118 en la región de Cukurova, pero ascendió hasta \$1.742 en Antalya. Esas diferencias son causadas por los factores arriba citados y el hecho de que cada región -o incluso una parte de la región-

puede caracterizarse por un conjunto singular de factores agroclimáticos que afectan al nivel de utilización de los insumos. Como consecuencia de esos factores, los costos pueden haber diferido ampliamente, aun en el caso de que se produjera la misma variedad de algodón.

Continuando la tendencia ascendente del decenio de 1970, los costos de producción del algodón en rama volvieron a aumentar en grado significativo en 1980 con respecto al año precedente. Con base en la muestra de 12 países, el costo bruto por hectárea creció en el 17,4 por ciento para llegar a la cifra de \$1.207 (véase el Cuadro resumido 2), en consonancia con el aumento medio del 18 por ciento en 1978 y 1979.

El alza en los costos con respecto al año precedente fue común en casi todas las partidas. Sin embargo, la mayor parte del incremento procedió de las partidas de costo grande, como energía y equipo, productos químicos y fertilizantes y mano de obra. Por ejemplo, los costos de energía y equipo, que constituyen alrededor del 14 por ciento del costo total, se elevaron en el 43 por ciento, para ascender a más de \$162 por hectárea en 1980. Entre los varios países, el costo de energía y equipo se elevó en el 133 por ciento en Irán para llegar a \$70 por hectárea. También se registraron aumentos sustanciales en Colombia, hasta el 127 por ciento, y en Australia, hasta el 40 por ciento. El acentuado incremento se debió en parte a los costos crecientes de la energía, pero el alza también cabe atribuirle al mayor nivel de utilización por hectárea. Otra partida grande de costos estuvo representada por los productos químicos y los fertilizantes, con el 17 por ciento del costo bruto en 1980. El costo de esa partida mostró un alza de casi el 19 por ciento, o sea más de \$31 por hectárea en términos absolutos. Los costos de la mano de obra, que representaron una cuarta parte del costo bruto total en promedio, también aumentaron en medida significativa, a casi \$302 por hectárea, o sea un alza del 19 por ciento comparada con un año antes.

Debido al aumento en el costo y la relativa escasez de mano de obra en los últimos años, los productores de varios países la han reemplazado con maquinaria. Por ejemplo, la deficiencia de fuerza laboral en Nicaragua está aliviándose mediante la mayor utilización de pizcadoras mecánicas de algodón. De todos modos, el costo de inversión en la mecanización es grande toda vez que exige fuertes desembolsos para diferentes actividades agrícolas, como la preparación cuidadosa de la cama de semillas, la siembra y fertilización precisas, la protección del cultivo mediante la aplicación de plaguicidas con equipo moderno y la recolección con pizcadoras mecánicas. Aparte de capital, esas actividades demandan un nivel elevado de investigación inicial y la difusión uniforme y continuada a los agricultores de los resultados de la investigación. Además, para utilizar la mecanización en forma eficaz, la escala de las operaciones agrícolas resulta muy importante para lograr la utilización óptima de la maquinaria y el equipo. En muchos países en desarrollo, el cultivo del algodón se lleva a cabo en su mayor parte por pequeños propietarios o aparceros. El cultivo mecanizado del algodón, por lo tanto, exigiría la consolidación en gran escala de pequeñas fincas o un extenso uso de operaciones expresamente encargadas a fin de utilizar la maquinaria en forma eficiente. En los países en desarrollo, donde el algodón se produce en general siguiendo en su mayor parte prácticas de "agricultura tradicional", la energía y el equipo se utilizan sobre todo en las actividades previas a la recolección, como arado, etc. Con fundamento en todas las respuestas dadas a nuestra encuesta, cabe decir que la energía y el equipo no se utilizaron en la recolección del algodón en casi dos terceras partes de los países encuestados.

Los costos de riego ascendieron en más del 12 por ciento en 1980 comparados con los del año precedente. Aunque parte del aumento cabe atribuirlo a la mayor utilización de agua, los costos mayores de ésta representaron una proporción importante. Se encontró que los costos de una hectárea de algodón de riego fueron considerablemente más elevados que los del algodón de secano, no sólo debido al costo de riego en sí, sino también a causa de los costos más altos en general de otros insumos asociados, como la utilización más intensiva de fertilizantes, herbicidas, insecticidas, etc. En Zimbabwe, por ejemplo, el costo del fertilizante para una hectárea con riego fue en promedio 25 por ciento más alto que para la que no tuvo riego. Por supuesto, debido a la mayor productividad del algodón de riego, el costo por libra de la fibra es en general más bajo que el producido sin riego. En el caso de Zimbabwe el costo fue casi el 27 por ciento más bajo.

Se considera que el brusco incremento en los precios de insumos clave el año pasado ha ocasionado descensos en su nivel de utilización en algunos países. Ese argumento se expuso con claridad en las respuestas de la Costa de Marfil y Siria, entre otros, ya que en el primero el desembolso por hectárea en fertilizantes se redujo en el 27 por ciento, y en el segundo los gastos en herbicidas declinaron en el 51 por ciento.

En lo que se refiere a los 12 países que se analizan aquí, los costos directos por hectárea fuera de la finca (representados en su mayor parte por los costos de desmote) descendieron ligeramente en 1980 con respecto a los del año anterior debido, sobre todo, a los rendimientos mucho más reducidos de varios de los países de la muestra. Esto fue especialmente notable en los Estados Unidos, Colombia y Turquía. Los costos generales aumentaron en menos del 5 por ciento en comparación con un incremento medio de casi el 8 por ciento en 1978 y 1979. La moderación de esos costos fue producida por un descenso en el valor de renta de la tierra en varios países, aun cuando los costos de administración se elevaron en escala significativa.

Cuando se examina el comportamiento de los costos durante el decenio pasado, los resultados de nuestros estudios de las muestras limitadas tomadas de la encuesta de cada año indican que los costos de producción del algodón se elevaron en medida apreciable a principios del decenio de 1970 como consecuencia, en gran parte, del sustancial alza en los precios del petróleo y de otras fuentes de energía. Ulteriormente el aumento de los costos se moderó durante algunos años, pero la tendencia alcista se reanudó en el transcurso de los dos últimos años. Esto, también, es un reflejo de los bruscos incrementos en los precios de la energía así como de la elevada tasa de inflación en general.

En el curso de los últimos años, casi todo el avance en los costos de producción ha sido contrarrestado por el acrecentamiento de la productividad. Así, el aumento en el costo por libra se mantuvo a una tasa relativamente moderada. El año pasado, sin embargo, además de la influencia de los costos cada vez mayores de los insumos, el costo de fibra por libra también se elevó debido a que los rendimientos fueron más bajos en promedio. Como consecuencia, los costos medidos tomando la libra como base se elevaron en grado mucho más acentuado que los costos por hectárea. En lo que se refiere a los países que respondieron al cuestionario, los costos netos de producción de fibra en 1980 oscilaron desde 17 centavos por libra en Zaire hasta \$2,10 para El Salvador (véase el Cuadro resumido 1). Sin embargo, en lo atinente a casi la mitad de los países que enviaron sus respuestas, el costo neto por libra fluctuó entre 50 centavos y un dólar.

Summary Table 1 - Cost of cotton production for all reporting countries, 1980.
 Coûts de production du coton pour tous les pays ayant fourni des informations pour 1980.
 Costos de la producción de algodón correspondientes a todos los países que enviaron información, 1980.

Country	Net cost per ha. (\$US)/Coût net par ha. (\$EU) Costo neto por ha. (\$EU)		Net cost per pound (¢US) Coût net par livre (¢EU) Costo neto por libra (¢EU)
	Gross cost	Net cost	
Argentina	881.9	-	-
Australia	1,890.2	1,731.6	107.01
Bangladesh	372.3	279.3	38.00
Colombia	1,157.9	999.7	83.03
Costa Rica	1,234.3	1,110.7	87.61
Ecuador	1,126.0	936.0	64.87
Egypt	811.3	752.8	34.61
El Salvador	4,476.3	4,018.1	210.00
Guatemala	2,004.3	1,821.0	70.00
Iran	1,401.0	1,114.0	105.27
Ivory Coast	788.6	774.6	73.20
Kenya	536.7	482.0	113.87
Mexico			
Torreon	1,611.4	1,231.0	50.76
Chihuahua	1,242.6	962.6	53.97
Mexicali	1,259.5	939.9	46.14
Tapachula	1,004.7	700.3	40.11
Pakistan	399.4	246.4	29.10
Paraguay	968.2	-	-
Philippines	592.3	-	-
South Africa	1,526.1	1,398.2	74.62 ^{1/}
Spain	2,905.0	2,424.0	110.00
Sudan	768.0	-	-
Syria	1,801.3	1,594.6	78.21
Tanzania	463.9	394.7	167.30
Thailand	645.1	523.9	56.84
Turkey			
Cukurova	1,117.9	911.6	52.21
Aegean	1,363.2	1,118.2	54.48
Antalya	1,742.1	1,461.1	62.88
Uganda	564.9	548.0	191.21
United States			
Southeast	1,231.2	1,150.8	134.60
Delta	1,124.8	1,024.1	105.73
Southwest	595.6	545.4	110.91
West	2,155.0	1,856.0	73.86
Upper Volta	312.1	285.5	37.00
West Indies	3,011.2	-	152.32
Zaire	149.2	149.2	16.92 ^{2/}
Zambia	1,242.3	1,101.6	83.28
Zimbabwe		699.3	60.42 ^{3/}

^{1/}Costs are an average for dry-land and irrigated crops, and pertain to the 1979/80 crop.

^{2/}No allowance was made for the value of cotton seed.

^{3/}Dry-land only.

Summary Table 2 - Per hectare cost (simple average) of raw cotton production for twelve countries, 1979 and 1980.
 Coût de production du coton brut par hectare (moyenne simple) pour douze pays sélectionnés, en 1979 et 1980.
 Costo por hectaria (promedio simple) de la producción de algodón en bruto para doce países, 1979 y 1980.

Cost items	1979	1980	1980 versus 1979			Rubrique/Rubro
			Change/ Cambio	Relative shares/Part. relative/Part.relative		
				1979	1980	
	In U.S. dollars/En dollars des E.U./En dolares de EE.UU.		Percent/Pourcentage/Porcentaje			
On farm direct costs						Coûts directs à l'exploitation/ Costos directos en el fundo agrícola Avant la récolte/Antes de la cosecha
Preharvesting						Main d'oeuvre/Mano de obra Energie et matériel/Fuerza motriz y equipo Semences/Semilla Engrais/Fertilizante Herbicides, fongicides et autres/ Herbicidas, fungicidas y otros Irrigation/Irrigacion Travaux à façon/Trabajo encargado Autres/Otros
Labor	161.0	192.7	19.7	15.7	16.0	
Power and Equipment . .	100.2	138.6	38.3	9.8	11.5	
Seed	13.1	15.3	16.8	1.3	1.3	
Fertilizer	61.7	65.7	6.5	6.0	5.5	
Herbicides, fungicides and others	106.8	134.0	25.5	10.4	11.1	
Irrigation	30.4	34.1	12.2	3.0	2.8	
Custom work	8.9	11.7	31.5	0.9	1.0	
Others	32.7	47.1	44.0	3.2	3.9	
SUB-TOTAL	514.8	638.8	24.1	50.1	52.9	TOTAL PARTIEL/TOTAL PARCIAL
Harvesting						Récolte/Cosecha
Labor	92.3	109.0	18.1	9.0	9.0	Main d'oeuvre/Mano de obra
Power and Equipment . .	13.3	23.8	79.0	1.3	2.0	Energie et matériel/Fuerza motriz y equipo
Custom work	71.4	74.7	4.5	7.0	6.2	Travaux à façon/Trabajo encargado
Others	7.5	5.1	- 32.2	0.7	0.4	Autres/Otros
SUB-TOTAL	184.5	212.6	15.2	18.0	17.6	TOTAL PARTIEL/TOTAL PARCIAL
Interest	32.0	52.0	62.5	3.1	4.3	Intérêts/Intereses
Off farm direct costs						Coûts directs en dehors de l'exploitation/ Costos directos incurridos fuera del fundo agrícola
Transportation	20.6	19.7	- 4.4	2.0	1.6	Transports/Transporte
Ginning and ties	89.4	79.8	- 10.7	8.7	6.6	Egrenage et cerclage/Desmote y amarres
Others	6.0	15.0	150.0	0.6	1.2	Autres/Otros
SUB-TOTAL	115.9	114.5	- 1.2	11.3	9.5	TOTAL PARTIEL/TOTAL PARCIAL
I - Total direct costs	847.2	1,017.9	20.2	82.5	84.4	I - Total des coûts directs/Total de costos directos
Overhead costs						Frais généraux/Costos generales fijos
Management	47.3	58.6	23.9	4.6	4.5	Gestion/Manejo
Land cost (rent)	111.1	106.7	- 4.0	10.8	8.8	Coût des terrains(loc.)/Costo del Terreno (Alq.)
Others	21.8	23.4	7.3	2.1	1.9	Autres/Otros
II- Total overhead costs	180.2	188.7	4.7	17.5	15.6	II- Total frais généraux/Total costos generales fijos
TOTAL COST - seed cotton	1,027.4	1,206.6	17.4	100.0	100.0	TOTAL DES COUTS - coton graine/ COSTOS TOTALES - Algodon con semilla
Per pound cost for lint in U.S. cents (weighted average)	55.13	79.14	43.6	-	-	Coûts nets pour la fibre en cents des E.U. la livre (moyenne pondérée)/Costos netos de la fibra en centavos de EE.UU.por libra (promedio ponderado)

Yield used (kilos per hectare)
 for seed (unginned) cotton 1,000
 of which: Cotton lint _____
 Cotton seed _____

Country ARGENTINACrop year 1980/81

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor		89.24
Power (Fuel-oil))	
Equipment . . . . .	)	49.17
Seed		46.58
Fertilizer		33.40
Herbicides		-
Insecticides & fungicides		15.72
Defoliant & other chemicals		17.15
Irrigation		-
Custom or contract work		-
Other (specify) _____		-
(A) Subtotal		251.26
<u>Harvesting:</u>		
Labor		296.90
Power		-
Equipment		-
Custom or contract work		-
Other (specify) <u>(bags)</u> _____		8.35
(B) Subtotal		305.25
(C) <u>Interest on operating capital</u>		11.13
<u>Off farm direct costs</u>		
Transportation to gin		
Ginning (including bagging & ties)		
Other (specify) _____		
(D) Subtotal		
I. <u>Total direct costs (A+B+C+D)</u>		567.64
<u>Overhead costs</u>		
Management & administration		105.05
Land cost (typical rental value)		24.56
Other (specify) <u>Interest on improvements</u>		
<u>real estate tax, patents, insurance,</u>		
<u>interest amortization.</u>		184.69
II. <u>Total overhead costs</u>		314.30
TOTAL COSTS FOR SEED COTTON (I + II)		881.94
MINUS - value of cottonseed extracted in ginning		
NET COSTS FOR LINT		
<u>Net costs for lint in US cents per pound</u>		
Rate of exchange used for converting local currency into US dollars	Type of exchange seller National Bank 2.036 pesos = US\$ 1.00 1/31/81	
<u>Additional remarks:</u>		

Yield used (kilos per hectare)
 for seed (unginned) cotton 2,225
 of which: Cotton lint 734
 Cotton seed 1,222

Country AUSTRALIA*Crop year 1980/81

Item	Average estimated cost per hectare		
	Quantity used per ha. (specify unit)	Cost in US\$	
<u>On farm direct costs</u>			
<u>Preharvesting:</u>			
Labor	34.5 Direct Man Hrs	225.90	
Power	}	322.70	
Equipment			
Seed			23.20
Fertilizer			70.40
Herbicides			52.60
Insecticides & fungicides			159.60
Defoliant & other chemicals			22.90
Irrigation	66.70		
Custom or contract work		110.50	
Other (specify) _____			
(A) Subtotal		1,054.50	
<u>Harvesting:</u>			
Labor	11 Direct Man Hrs	72.00	
Power	}	84.60	
Equipment			
Custom or contract work			
Other (specify) _____			
(B) Subtotal		156.60	
(C) Interest on operating capital		145.10	
<u>Off farm direct costs</u>			
Transportation to gin		20.80	
Ginning (including bagging & ties)		95.70	
Other (specify) _____			
(D) Subtotal		116.50	
I. Total direct costs (A+B+C+D)		1,472.70	
<u>Overhead costs</u>			
Management & administration		296.20	
Land cost (typical rental value)		121.30	
Other (specify) _____			
II. Total overhead costs		417.50	
TOTAL COSTS FOR SEED COTTON (I + II)		1,890.20	
MINUS - value of cottonseed extracted in ginning		158.60	
NET COSTS FOR LINT		1,731.60	
Net costs for lint in US cents per pound		107.01	
Rate of exchange used for converting local currency into US dollars	AUST. \$1.00 = \$US1.17		
<u>Additional remarks:</u>			

*In the State of New South Wales only.

The cotton crop 1980/81 reflects an abnormally low yield due to prolonged drought conditions. The average yield would normally approach 1,150 kgs per hectare. With that yield the net cost for lint in U.S. currency (break even point) would be 68 cents per pound.

	Country	<u>BANGLADESH</u>	Crop year	<u>1980/81</u>
Yield used (kilos per hectare)				
for seed (unginned) cotton		<u>988.40</u>		
of which: Cotton lint		<u>329.46</u>		
Cotton seed		<u>658.94</u>		

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor		70.51
Power (for land preparation)		35.26
Equipment		-
Seed	23 kgs	3.52
Fertilizer	322 kgs	45.83
Herbicides	Not used	-
Insecticides & fungicides		49.36
Defoliant & other chemicals	Not used	-
Irrigation		42.31
Custom or contract work		-
Other (specify) _____		-
(A) Subtotal		246.79
<u>Harvesting:</u>		
Labor		35.26
Power		-
Equipment		-
Custom or contract work		-
Other (specify) _____		-
(B) Subtotal		35.26
(C) <u>Interest on operating capital</u>	\$282.08 x 12%	33.85
<u>Off farm direct costs</u>		
Transportation to gin		14.10
Ginning (including bagging & ties)		42.31
Other (specify) _____		-
(D) Subtotal		56.41
I. <u>Total direct costs (A+B+C+D)</u>		372.31
<u>Overhead costs</u>		
Management & administration 1/		-
Land cost (typical rental value)	Cannot be segregated	-
Other (specify) _____		-
II. <u>Total overhead costs</u>		-
TOTAL COSTS FOR SEED COTTON (I + II)		372.31
MINUS - value of cottonseed extracted in ginning		93.03
NET COSTS FOR LINT		279.28
Net costs for lint in US cents per pound		38.00
Rate of exchange used for converting local currency into US dollars	T 17.52 = US \$1.00	

Additional remarks: The above figures cannot be taken as firm basis for any projection work as cotton cultivation is still in rudimentary stage in Bangladesh. Something firm can be indicated only when such data are averaged for the next 3 years.

1/Since it is being cultivated by the tillers of very small holdings, the cost could be very nominal and it is not possible to segregate at this stage. This is included in the harvesting and preharvesting expenses.

Yield used (kilos per hectare)
 for seed (unginned) cotton _____
 of which: Cotton lint 546
 Cotton seed _____

Country COLOMBIA Crop year 1980/81

Item	Average estimated cost per hectare 1/	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor		60.51
Power		126.03
Equipment		9.64
Seed		17.34
Fertilizer		30.83
Herbicides		38.54
Insecticides & fungicides		231.26
Defoliant & other chemicals		
Irrigation		
Custom or contract work		
Other (specify) <u>Technical assistance</u>		
(A) Subtotal		514.16
<u>Harvesting:</u>		
Labor		161.88
Power		48.18
Equipment		19.27
Custom or contract work		0.96
Other (specify) _____		
(B) Subtotal		230.29
(C) <u>Interest on operating capital</u>		56.85
<u>Off farm direct costs</u>		
Transportation to gin		15.42
Ginning (including bagging & ties)		64.75
Other (specify) _____		
(D) Subtotal		80.17
I. <u>Total direct costs (A+B+C+D)</u>		881.47
<u>Overhead costs</u>		
Management & administration		90.34
Land cost (typical rental value)		96.36
Other (specify) <u>contingent insurance, union quota & development</u>		53.88
		2.89
		32.92
II. <u>Total overhead costs</u>		276.39
TOTAL COSTS FOR SEED COTTON (I + II)		1,157.86
MINUS - value of cottonseed extracted in ginning		158.18
NET COSTS FOR LINT		999.68
Net costs for lint in US cents per pound		83.03
Rate of exchange used for converting local currency into US dollars	51.89 pesos = \$US 1.00	
<u>Additional remarks:</u>		

1/Information corresponds to the Atlantic Coast cotton area.

Country COSTA RICA Crop year 1980/81
 Yield used (kilos per hectare)
 for seed (unginned) cotton 1.625
 of which: Cotton lint 575
 Cotton seed 1.050

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	30 man-days	126.25
Power		118.00
Equipment		
Seed	10 kgs	8.50
Fertilizer	360 kgs	100.00
Herbicides	2.5 liters	21.00
Insecticides & fungicides	15.0 liters	90.00
Defoliant & other chemicals	2.0 liters	7.00
Irrigation		
Custom or contract work		
Other (specify) <u>aerial application</u> <u>of agricultural chemicals</u>	20 applications	84.00
(A) Subtotal		554.75
<u>Harvesting:</u>		
Labor		46.00
Power		225.00
Equipment		
Custom or contract work		
Other (specify) _____		
(B) Subtotal		271.00
(C) <u>Interest on operating capital</u>		125.00
<u>Off farm direct costs</u>		
Transportation to gin		12.50
Ginning (including bagging & ties) Other (specify) _____		109.00
(D) Subtotal		121.50
I. <u>Total direct costs (A+B+C+D)</u>		1,072.25
<u>Overhead costs</u>		
Management & administration		34.00
Land cost (typical rental value)		84.00
Other (specify) <u>crop insurance</u>		44.00
II. <u>Total overhead costs</u>		162.00
TOTAL COSTS FOR SEED COTTON (I + II)		1,234.25
MINUS - value of cottonseed extracted in ginning		123.60
NET COSTS FOR LINT		1,110.65
Net costs for lint in US cents per pound		87.61
Rate of exchange used for converting local currency into US dollars	12.00 colons = US\$ 1.00	
<u>Additional remarks:</u>		

	Country	ECUADOR	Crop year	1980
Yield used (kilos per hectare)				
for seed (unginned) cotton		1,818.00		
of which: Cotton lint		654.48		
Cotton seed		1,091.00		

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	70 days (S/90)	252
Power	Tractor	40
Equipment	Tractor	40
Seed	20 lbs	10
Fertilizer	4 qq. Urea 4 qq. Manure	130
Herbicides	3 lts. + 1 kg	40
Insecticides & fungicides	8 applications	125
Defoliant & other chemicals		
Irrigation		
Custom or contract work		
Other (specify) _____		
(A) Subtotal		637
<u>Harvesting:</u>		
Labor	50 days (S/100)	200
Power		
Equipment		
Custom or contract work	Security & handling	25
Other (specify) _____		
(B) Subtotal		225
(C) Interest on operating capital		57
<u>Off farm direct costs</u>		
Transportation to gin		25
Ginning (including bagging & ties)		102
Other (specify) _____		
(D) Subtotal		127
I. Total direct costs (A+B+C+D)		1,046
<u>Overhead costs</u>		
Management & administration		40
Land cost (typical rental value)		40
Other (specify) _____		
II. Total overhead costs		80
TOTAL COSTS FOR SEED COTTON (I + II)		1,126
MINUS - value of cottonseed extracted in ginning		190
NET COSTS FOR LINT		936
Net costs for lint in US cents per pound		64.87
Rate of exchange used for converting local currency into US dollars	S/25.00 = US\$ 1.00	
<u>Additional remarks:</u>		

Yield used (kilos per hectare)
 for seed (unginned) cotton 2,624.48
 of which: Cotton lint 986.71
 Cotton seed 1,637.77

Country EGYPTCrop year 1980

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	Land preparation & cultural operations	158.34
Power . . . . .	) Ploughing w. tractor + draught animals w/ implements	75.43
Equipment	166 kgs	6.36
Seed	48m ³ manure + 238kgs super-phosphate + 714kgs ammonium nitrate	96.75
Fertilizer	2-3 aerial sprays	61.21
Herbicides		
Insecticides & fungicides		
Defoliants & other chemicals		
Irrigation	9 irrigations	-
Custom or contract work		-
Other (specify) _____		
(A) Subtotal		398.09
<u>Harvesting:</u>		
Labor		206.73
Power		
Equipment		
Custom or contract work		
Other (specify) _____		-
(B) Subtotal		206.73
(C) Interest on operating capital		-
<u>Off farm direct costs</u>		
Transportation to gin		
Ginning (including bagging & ties)		
Other (specify) _____		
(D) Subtotal		-
I. Total direct costs (A+B+C+D)		604.82
<u>Overhead costs</u>		
Management & administration		
Land cost (typical rental value)		206.52
Other (specify) _____		
II. Total overhead costs		206.52
TOTAL COSTS FOR SEED COTTON (I + II)		811.34
MINUS - value of cottonseed extracted in ginning		58.55
NET COSTS FOR LINT		752.79
Net costs for lint in US cents per pound		34.61
Rate of exchange used for converting local currency into US dollars	70 piasters = US\$ 1.00	
<u>Additional remarks:</u>		

Yield used (kilos per hectare) Country EL SALVADOR Crop year 1980/81
 for seed (unginned) cotton 35 QQ x mz.
 of which: Cotton lint 13.20 QQ x mz.
 Cotton seed 19.40 QQ x mz.

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	21 men	339.36
Power	-	230.84
Equipment	-	7.27
Seed	276 qq	38.22
Fertilizer	1,848 Sac. 200 lbs	415.71
Herbicides	-	-
Insecticides & fungicides	16,180 liters	702.82
Defoliant & other chemicals	-	-
Irrigation	-	-
Custom or contract work	-	-
Other (specify) <u>Pest control,</u>		321.20
<u>supervision, penalty</u>	5 persons	
(A) Subtotal		2,055.42
<u>Harvesting:</u>		
Labor	113 men	1,243.81
Power	-	160.00
Equipment	-	-
Custom or contract work	-	-
Other (specify) _____		
(B) Subtotal		1,403.81
(C) <u>Interest on operating capital</u>		238.70
<u>Off farm direct costs</u>		
Transportation to gin		302.58
Ginning (including bagging & ties)		136.25
Other (specify) <u>Depreciation,</u>		11.64
<u>insurance for raw cotton</u>		
(D) Subtotal		486.47
I. <u>Total direct costs (A+B+C+D)</u>		4,148.40
<u>Overhead costs</u>		
Management & administration		127.90
Land cost (typical rental value)		200.00
Other (specify) _____		
II. <u>Total overhead costs</u>		327.90
TOTAL COSTS FOR SEED COTTON (I + II)		4,476.30
MINUS - value of cottonseed extracted in ginning		458.17
NET COSTS FOR LINT		4,018.13
Net costs for lint in US cents per pound		2.01
Rate of exchange used for converting local currency into US dollars	Colons 2.50 = US\$ 1.00	
<u>Additional remarks:</u>		

Note by ICAC Secretariat : The data given above do not appear comparable to those reported last season.

Yield used (kilos per hectare)
 for seed (unginned) cotton _____
 of which: Cotton lint 2,601.5
 Cotton seed _____

Country GUATEMALACrop year 1980/81

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor		14.32
Power		14.32
Equipment		11.45
Seed		17.18
Fertilizer		143.16
Herbicides		42.95
Insecticides & fungicides		715.82
Defoliants & other chemicals		
Irrigation		
Custom or contract work		
Other (specify) <u>Manual resowing and removal of suckers</u>		22.91
(A) Subtotal		982.10
<u>Harvesting:</u>		
Labor		551.18
Power		
Equipment		
Custom or contract work		
Other (specify) _____		
(B) Subtotal		551.18
(C) <u>Interest on operating capital</u>		
<u>Off farm direct costs</u>		
Transportation to gin		28.63
Ginning (including bagging & ties) Other (specify) _____		
(D) Subtotal		28.63
I. <u>Total direct costs (A+B+C+D)</u>		1,561.91
<u>Overhead costs</u>		
Management & administration		57.27
Land cost (typical rental value) Other (specify) _____		286.33
II. <u>Total overhead costs</u>		343.59
III. <u>Unspecified costs</u>		98.78
<u>TOTAL COSTS FOR SEED COTTON (I + II + III)</u>		2,004.28
MINUS - value of cottonseed extracted in ginning		183.25
<u>NET COSTS FOR LINT</u>		1,821.03
<u>Net costs for lint in US cents per pound</u>		70.00
Rate of exchange used for converting local currency into US dollars		
<u>Additional remarks:</u>		

	Country	IRAN	Crop year	1980/81
Yield used (kilos per hectare)				
for seed (unginned) cotton		1,500		
of which: Cotton lint		480		
Cotton seed		900		

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	50 man-days	300
Power . . . . .	)	70
Equipment		
Seed	50 kgs	20
Fertilizer	200 kgs	50
Herbicides		
Insecticides & fungicides	3 sprays	210
Defoliant & other chemicals		
Irrigation	4 irrigations	120
Custom or contract work		
Other (specify) _____		
(A) Subtotal		770
<u>Harvesting:</u>		
Labor	40 man-days	250
Power		
Equipment		
Custom or contract work		
Other (specify) _____		
(B) Subtotal		250
(C) <u>Interest on operating capital</u>		30
<u>Off farm direct costs</u>		
Transportation to gin		20
Ginning (including bagging & ties)		
Other (specify) _____		73
(D) Subtotal		93
I. <u>Total direct costs (A+B+C+D)</u>		1,143
<u>Overhead costs</u>		
Management & administration		67
Land cost (typical rental value)		191
Other (specify) _____		
II. <u>Total overhead costs</u>		258
TOTAL COSTS FOR SEED COTTON (I + II)		1,401
MINUS - value of cottonseed extracted in ginning		287
NET COSTS FOR LINT		1,114
Net costs for lint in US cents per pound		105.27
Rate of exchange used for converting local currency into US dollars	Rials 78.5 = US\$ 1.00	
<u>Additional remarks:</u>		

	Country <u>IVORY COAST</u>	Crop year <u>1980/81</u>
Yield used (kilos per hectare)		
for seed (unginned) cotton	<u>1,161</u>	
of which: Cotton lint	<u>480</u>	
Cotton seed	<u>681</u>	

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	96 man-days	227.00
Power		
Equipment		
Seed	37 kgs.	1.63
Fertilizer	200 kgs NPK + 50 kgs Urea	62.50
Herbicides		
Insecticides & fungicides	12.75 lt.+ equipment	93.60
Defoliant & other chemicals		
Irrigation		
Custom or contract work		
Other (specify) _____		
(A) Subtotal		384.73
<u>Harvesting:</u>		
Labor	42 man-days	99.20
Power		
Equipment		
Custom or contract work		
Other (specify) <u>transportation</u>	5 man-days	11.80
<u>stalk destruction</u>	10 man-days	23.60
(B) Subtotal		134.60
(C) <u>Interest on operating capital</u>		-
<u>Off farm direct costs</u>		
Transportation to gin		44.00
Ginning (including bagging & ties)		
Other (specify) <u>stockpiling,grading</u>		134.00
<u>marketing expenses</u>		
(D) Subtotal		178.00
I. <u>Total direct costs (A+B+C+D)</u>		697.33
<u>Overhead costs</u>		
Management & administration		
Land cost (typical rental value)		
Other (specify) <u>supervision</u>		91.30
II. <u>Total overhead costs</u>		91.30
TOTAL COSTS FOR SEED COTTON (I + II)		788.63
MINUS - value of cottonseed extracted in ginning		14.00
NET COSTS FOR LINT		774.63
Net costs for lint in US cents per pound		73.20
Rate of exchange used for converting local currency into US dollars	257 F/CFA = US\$ 1.00	
<u>Additional remarks:</u>		

	Country	KENYA	Crop year	1980/81
Yield used (kilos per hectare)				
for seed (unginned) cotton	600			
of which: Cotton lint	192			
Cotton seed	408			

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	85 man-days	113.30
Power	-	-
Equipment	10 hrs x 60 HP tractor	100.00
Seed	22 kgs.	3.00
Fertilizer	TSP 150 kgs.	72.00
Herbicides	CAN 100 kgs.	29.30
Insecticides & fungicides	75% DDT W.P. at 1.4 kg	-
Defoliant & other chemicals	85% Carbaryl W.P. at 1.25kg	55.60
Irrigation	-	-
Custom or contract work	-	-
Other (specify)	-	-
(A) Subtotal		373.20
<u>Harvesting:</u>		
Labor	31 man-days	41.30
Power	-	-
Equipment	20 gunny bags cycling 3 times	5.80
Custom or contract work	-	-
Other (specify) <u>On farm</u>	-	-
<u>transportation</u>	-	6.00
(B) Subtotal		53.10
(C) <u>Interest on operating capital*</u>	Charged at 11%	-
<u>Off farm direct costs</u>		
Ginning (including bagging & ties)		
Other (specify) <u>Storage, transportation</u>	(at \$0.2 per ton km)	26.10
<u>to gin, interest over 90 days,</u>		40.00
<u>buying commission</u>		66.10
(D) Subtotal		492.40
I. <u>Total direct costs (A+B+C+D)</u>		492.40
<u>Overhead costs</u>		
Management & administration		
Land cost (typical rental value)		
Other (specify) <u>Management & admin</u>		
<u>less Govt. contribution in form of</u>		
<u>technical advice</u>		44.30
II. <u>Total overhead costs</u>		44.30
TOTAL COSTS FOR SEED COTTON (I + II)		536.70
MINUS - value of cottonseed extracted in ginning		54.70
NET COSTS FOR LINT		482.00
		113.87
Net costs for lint in US cents per pound		113.87
Rate of exchange used for converting local currency into US dollars	Kshs. 8.4 = US\$ 1.00	
<u>Additional remarks:</u>		
*This is included under "Off farm direct costs".		

	Country	MEXICO	Crop year	1980/81
Yield used (kilos per hectare)				
for seed (unginned) cotton	2,850	()	2,097	()
of which: Cotton lint	1,100	(Torreon, Coah.)	809	(Chihuahua)
Cotton seed	1,750	()	1,288	(Chih.)

Item	Average estimated cost per hectare	
	Torreon	Chihuahua
<u>On farm direct costs</u>	<u>Cost in US \$</u>	
<u>Preharvesting:</u>		
Labor	296.48	127.04
Power	82.48	82.43
Equipment	92.48	38.57
Seed	25.43	30.00
Fertilizer	51.13	56.00
Herbicides	23.39	6.00
Insecticides & fungicides	166.30	106.39
Defoliant & other chemicals	-	14.26
Irrigation	69.00	40.00
Custom or contract work	87.00	
Other (specify) <u>Planting permit,</u>		
<u>biological control, crop insurance</u>	48.13	
(A) Subtotal	941.82	500.69
<u>Harvesting:</u>		
Labor	170.00	123.74
Power	7.48	2.39
Equipment	5.00	2.39
Custom or contract work		
Other (specify) <u>Insurance</u>		108.74
(B) Subtotal	182.48	237.26
(C) <u>Interest on operating capital</u>	168.61	110.70
<u>Off farm direct costs</u>		
Transportation to gin	32.17	11.00
Ginning (including bagging & ties)	143.48	107.52
Other (specify) <u>Taxes & Penalties</u>	26.43	26.70
(D) Subtotal	202.08	145.22
I. <u>Total direct costs (A+B+C+D)</u>	1,494.99	993.87
<u>Overhead costs</u>		
Management & administration	112.39	73.74
Land cost (typical rental value)		175.00
Other (specify) <u>Crop management</u>		
<u>expenses</u>	4.00	
II. <u>Total overhead costs</u>	116.39	248.74
TOTAL COSTS FOR SEED COTTON (I + II)	1,611.38	1,242.61
MINUS - value of cottonseed extracted in ginning	380.43	280.00
NET COSTS FOR LINT	1,230.95	962.61
Net costs for lint in US cents per pound	50.76	53.97
Rate of exchange used for converting local currency into US dollars	23 pesos = US\$ 1.00	

Additional remarks:

These average costs are estimated for pump and gravity irrigated areas.

Item	Average estimated cost per hectare	
	Mexicali, B.C.N.	Tapachula, Chis.
<u>Yield used (kilos per hectare)</u>		
for seed (unginned) cotton	2,394	2,052
of which: Cotton lint	924	792
Cotton seed	1,470	1,260
Country <u>MEXICO</u> Crop year <u>1980/81</u>		
(Mexicali, B.C.N.) (Tapachula, Chis.)		
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	100.00	50.22
Power		86.26
Equipment	84.35	43.48
Seed	26.09	8.74
Fertilizer	49.17	48.57
Herbicides	40.30	6.00
Insecticides & fungicides	197.52	268.09
Defoliant & other chemicals	33.48	12.52
Irrigation	42.52	
Custom or contract work		
Other (specify) _____		
(A) Subtotal	573.43	523.88
<u>Harvesting:</u>		
Labor	116.78	76.87
Power	7.52	2.17
Equipment	5.00	4.57
Custom or contract work		
Other (specify) _____	100.00	
(B) Subtotal	229.30	83.61
(C) Interest on operating capital	120.43	91.10
<u>Off farm direct costs</u>		
Transportation to gin	18.43	12.26
Ginning (including bagging & ties)	140.61	103.30
Other (specify) _____		26.70
(D) Subtotal	159.04	142.26
I. Total direct costs (A+B+C+D)	1,082.20	840.85
<u>Overhead costs</u>		
Management & administration	80.26	63.83
Land cost (typical rental value)		100.00
Other (specify) _____	97.04	
II. Total overhead costs	177.30	163.83
TOTAL COSTS FOR SEED COTTON (I + II)	1,259.50	1,004.68
MINUS - value of cottonseed extracted in ginning	319.57	304.35
NET COSTS FOR LINT	939.93	700.33
Net costs for lint in US cents per pound	46.14	40.11
Rate of exchange used for converting local currency into US dollars	23.00 pesos = US\$ 1.00	
<u>Additional remarks:</u>		
Average costs for gravity irrigation. Rainfall cotton producing area in the South of the country.		

	Country	PAKISTAN	Crop year	1980/81
Yield used (kilos per hectare)				
for seed (unginned) cotton	1,153			
of which: Cotton lint	384			
Cotton seed	769			

Item	Average estimated cost per hectare		
	Quantity used per ha. (specify unit)	Cost in US\$	
<u>On farm direct costs</u>			
<u>Preharvesting:</u>			
Labor	43 man-days	52.12	
Power	}	10.76	
Equipment			
Seed	20 kgs.	4.33	
Fertilizer	185 kgs.	35.69	
Herbicides	}		
Insecticides & fungicides		3 sprays	74.87
Defoliant & other chemicals			
Irrigation	7 irrigations	10.98	
Custom or contract work	-	-	
Other (specify) _____			
(A) Subtotal		188.75	
<u>Harvesting:</u>			
Labor	25 man-days	30.30	
Power		-	
Equipment		-	
Custom or contract work		-	
Other (specify) _____		-	
(B) Subtotal		30.30	
(C) Interest on operating capital		13.10	
<u>Off farm direct costs</u>			
Transportation to gin		6.24	
Ginning (including bagging & ties)		83.19	
Other (specify) _____			
(D) Subtotal		89.43	
I. Total direct costs (A+B+C+D)		321.58	
<u>Overhead costs</u>			
Management & administration		6.00	
Land cost (typical rental value)		62.45	
Other (specify) _____		9.36	
II. Total overhead costs		77.81	
TOTAL COSTS FOR SEED COTTON (I + II)		399.39	
MINUS - value of cottonseed extracted in ginning		153.02	
NET COSTS FOR LINT		246.37	
Net costs for lint in US cents per pound		29.10	
Rate of exchange used for converting local currency into US dollars	Rs. 9.90 = US\$ 1.00		
<u>Additional remarks:</u>			

The above cost and yield relate to the most representative variety in the Punjab. Costs and yields vary in different regions depending on difference in practices; similarly yields also vary from region to region and variety to variety.

Yield used (kilos per hectare)
 for seed (unginned) cotton _____
 of which: Cotton lint _____
 Cotton seed _____

Country PARAGUAYCrop year 1980/81

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	64.5 man-days	307.14
Power		
Equipment		35.71
Seed	25 kgs.	7.14
Fertilizer		
Herbicides		
Insecticides & fungicides	5.2 kgs	74.60
Defoliant & other chemicals		
Irrigation		
Custom or contract work		
Other (specify) _____		
(A) Subtotal		424.59
<u>Harvesting:</u>		
Labor	96.6 man-days	460.31
Power		
Equipment		
Custom or contract work		
Other (specify) _____		
(B) Subtotal		460.31
(C) <u>Interest on operating capital</u>		-
<u>Off farm direct costs</u>		
Transportation to gin		
Ginning (including bagging & ties) Other (specify) _____		-
(D) Subtotal		
I. <u>Total direct costs (A+B+C+D)</u>		884.90
<u>Overhead costs</u>		
Management & administration		
Land cost (typical rental value) Other (specify) _____		83.33
II. <u>Total overhead costs</u>		83.33
TOTAL COSTS FOR SEED COTTON (I + II)		968.23
MINUS - value of cottonseed extracted in ginning		
NET COSTS FOR LINT		
<u>Net costs for lint in US cents per pound</u>		
Rate of exchange used for converting local currency into US dollars	126 guaranis = US\$ 1.00	
<u>Additional remarks:</u>		

Yield used (kilos per hectare)
for seed (unginned) cotton 1,200
of which: Cotton lint -
Cotton seed -

Country PHILIPPINES Crop year 1980/81

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	91 man-days (70% family 30% hired)	182.00
Power	-	-
Equipment	1 knapsack sprayer (16lts)	10.74
Seed	20 kgs	8.00
Fertilizer	4 bags (N-P ₂ O ₅ K ₂ O)+1 bag urea	100.00
Herbicides	-	-
Insecticides & fungicides	500 lts.	126.66
Defoliant & other chemicals	-	-
Irrigation	rental/gasoline (3 times)	41.33
Custom or contract work	-	-
Other (specify) _____	-	-
(A) Subtotal		468.73
<u>Harvesting:</u>		
Labor	40 man-days (70% family 30% hired)	80.00
Power	-	-
Equipment	-	-
Custom or contract work	-	-
Other (specify) <u>Transportation cost from farm to PhilCotton collection center</u>	Peso 0.10/kg. w/n 30kms radius	16.00
(B) Subtotal		96.00
(C) <u>Interest on operating capital</u>		27.60
<u>Off farm direct costs 1/</u>		
Transportation to gin		-
Ginning (including bagging & ties) Other (specify) _____		-
(D) Subtotal		-
I. <u>Total direct costs (A+B+C+D)</u>		592.33
<u>Overhead costs 2/</u>		
Management & administration		-
Land cost (typical rental value) Other (specify) _____		-
II. <u>Total overhead costs</u>		-
TOTAL COSTS FOR SEED COTTON (I + II)		592.33
MINUS - value of cottonseed extracted in ginning		-
NET COSTS FOR LINT		-
<u>Net costs for lint in US cents per pound</u>		
Rate of exchange used for converting local currency into US dollars	Pesos 7.50 = US\$ 1.00	

Additional remarks:

1/ Off farm direct costs are borne by the Philippine Cotton Corporation, the sole authority which buys and processes seed cotton in the Philippines.

2/ Land operated is under a "share-tenant" arrangement (75% of produce to farmer; 25% to landlord).

Country SOUTH AFRICA Crop year 1979/80
 Yield used (kilos per hectare)
 for seed (unginned) cotton 2,500
 of which: Cotton lint 850
 Cotton seed 1,600

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	268.94 hours	51.47
Power	20.00 hours	69.69
Equipment		
Seed	25 kgs	19.99
Fertilizer	805 kgs	169.12
Herbicides	1.17 lt.	9.54
Insecticides & fungicides		144.56
Defoliant & other chemicals		15.79
Irrigation		52.65
Custom or contract work		34.46
Other (specify) <u>Insurance</u>		52.90
(A) Subtotal		620.17
<u>Harvesting:</u>		
Labor	16.25 hours	5.82
Power	2.89 hours	10.07
Equipment		
Custom or contract work		159.90
Other (specify) _____		
(B) Subtotal		175.79
(C) <u>Interest on operating capital</u>		
<u>Off farm direct costs</u>		
Transportation to gin		27.18
Ginning (including bagging & ties)		66.60
Other (specify) <u>Packing material</u>		23.45
(D) Subtotal		117.23
I. <u>Total direct costs (A+B+C+D)</u>		913.19
<u>Overhead costs</u>		
Management & administration		319.80
Land cost (typical rental value) For		293.15
Other (specify) <u>two crops a year</u>		
II. <u>Total overhead costs</u>		612.95
TOTAL COSTS FOR SEED COTTON (I + II)		1,526.14
MINUS - value of cottonseed extracted in ginning (1,600 kg)		127.92
NET COSTS FOR LINT		1,398.22
Net costs for lint in US cents per pound		74.62
Rate of exchange used for converting local currency into US dollars	One S.A. Rand = 1.3325 US dollar	

Additional remarks:

- 1/ Our farmers planted two different crops a year on the same land.
- 2/ These production costs are an average between dry-land and irrigated crops.

Yield used (kilos per hectare)
 for seed (unginned) cotton 3,000
 of which: Cotton lint 1,000
 Cotton seed 1,900

Country SPAINCrop year 1980

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	100 hours	234.00
Power . . . . .	) Various	111.00
Equipment		
Seed	70 kgs	59.00
Fertilizer	900 kgs various	237.00
Herbicides	2 liters	31.00
Insecticides & fungicides	5 treatments	195.00
Defoliant & other chemicals		
Irrigation	7 irrigations	52.00
Custom or contract work		
Other (specify) _____	140 hours of irrigation, weeding & various	495.00
(A) Subtotal		1,414.00
<u>Harvesting:</u>		
Labor		
Power		
Equipment		
Custom or contract work	3,000 kgs at \$.2922	877.00
Other (specify) _____		
(B) Subtotal		877.00
(C) <u>Interest on operating capital</u>		32.00
<u>Off farm direct costs</u>		
Transportation to gin		31.00
Ginning (including bagging & ties)		161.00
Other (specify) _____		
(D) Subtotal		192.00
I. <u>Total direct costs (A+B+C+D)</u>		2,515.00
<u>Overhead costs</u>		
Management & administration		143.00
Land cost (typical rental value)		247.00
Other (specify) _____		
II. <u>Total overhead costs</u>		390.00
<u>TOTAL COSTS FOR SEED COTTON (I + II)</u>		2,905.00
MINUS - value of cottonseed extracted in ginning		481.00
<u>NET COSTS FOR LINT</u>		2,424.00
<u>Net costs for lint in US cents per pound</u>		110.00
<u>Rate of exchange used for converting local currency into US dollars</u>	77 pts = US\$ 1.00	
<u>Additional remarks:</u>		

Yield used (kilos per hectare)
 for seed (unginned) cotton 409
 of which: Cotton lint 137
 Cotton seed 272

Country SUDAN Crop year 1979/80

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor		23.69
Power		6.12
Equipment		-
Seed		10.00
Fertilizer		61.90
Herbicides		-
Insecticides & fungicides		176.16
Defoliant & other chemicals		-
Irrigation		38.08
Custom or contract work		14.47
Other (specify) <u>Malaria & campaign</u>		
<u>Canals irrigation, Experiment Research</u>		12.84
(A) Subtotal		343.26
<u>Harvesting:</u>		
Labor		95.22
Power		
Equipment		
Custom or contract work		
Other (specify) <u>Incentives, Cotton</u>		
<u>seed (sacks), handling at cotton station</u>		45.72
(B) Subtotal		140.94
(C) <u>Interest on operating capital</u>		61.90
<u>Off farm direct costs</u>		
Transportation to gin		30.00
Ginning (including bagging & ties)		90.46
Other (specify) _____		
(D) Subtotal		120.46
I. <u>Total direct costs (A+B+C+D)</u>		666.56
<u>Overhead costs</u>		
Management & administration		71.42
Land cost (typical rental value)		30.00
Other (specify) _____		
II. <u>Total overhead costs</u>		101.42
TOTAL COSTS FOR SEED COTTON (I + II)		767.98
MINUS - value of cottonseed extracted in ginning		-
NET COSTS FOR LINT		-
<u>Net costs for lint in US cents per pound</u>		
Rate of exchange used for converting local currency into US dollars . . . . .	.5 SdL = US\$1.00	
<u>Additional remarks:</u> These costs are for Gezira Scheme Cotton (irrigated cotton).		

Yield used (kilos per hectare) Country SYRIA Crop year 1981/82
 for seed (unginned) cotton 2,500
 of which: Cotton lint 925
 Cotton seed 1,550

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor		253.85
Power		
Equipment		405.13
Seed	100 kgs	15.38
Fertilizer	880 kg. Calnitro & Mono Super phosphate	128.21
Herbicides		
Insecticides & fungicides		
Defoliant & other chemicals		23.08
Irrigation		141.03
Custom or contract work		
Other (specify) <u>Sacks & cords</u>	Abt. 20 sacks per ha.	33.33
<u>Miscellaneous</u>		20.51
(A) Subtotal		1,020.52
<u>Harvesting:</u>		
Labor		230.77
Power		
Equipment		
Custom or contract work		
Other (specify) _____		
(B) Subtotal		230.77
(C) <u>Interest on operating capital</u>		76.92
<u>Off farm direct costs</u>		
Transportation to gin		62.82
Ginning (including bagging & ties)		128.21
Other (specify) _____		
(D) Subtotal		191.03
I. <u>Total direct costs (A+B+C+D)</u>		1,519.24
<u>Overhead costs</u>		
Management & administration		
Land cost (typical rental value)		282.05
Other (specify) _____		
II. <u>Total overhead costs</u>		282.05
TOTAL COSTS FOR SEED COTTON (I + II)		1,801.29
MINUS - value of cottonseed extracted in ginning		206.67
NET COSTS FOR LINT		1,594.62
Net costs for lint in US cents per pound		78.21
Rate of exchange used for converting local currency into US dollars	3.90 Syrian pounds = US\$ 1.00	
<u>Additional remarks:</u>		
The above data are for irrigated cotton.		

Yield used (kilos per hectare)
 for seed (unginned) cotton 380
 of which: Cotton lint 107
 Cotton seed 247

Country TANZANIA*Crop year 1980/81

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	111.25 man-days	177.72
Power	-	8.68
Equipment	-	11.82
Seed	37.5 kgs	40.39
Fertilizer	-	-
Herbicides	-	-
Insecticides & fungicides	15 liters	47.56
Defoliant & other chemicals	-	-
Irrigation	-	-
Custom or contract work	-	-
Other (specify) <u>Batteries</u>	8 pieces	1.92
(A) Subtotal		288.09
<u>Harvesting:</u>		
Labor	37.50 man-days	59.90
Power	-	-
Equipment	-	9.14
Custom or contract work	-	-
Other (specify) _____	-	-
(B) Subtotal		69.04
(C) <u>Interest on operating capital</u>	8.5%	30.35
<u>Off farm direct costs</u>		
Transportation to gin	-	8.10
Ginning (including bagging & ties)	-	25.08
Other (specify) <u>storage at village</u>	-	6.09
<u>storage at ginnery</u>	-	0.60
(D) Subtotal		39.87
I. <u>Total direct costs (A+B+C+D)</u>		427.35
<u>Overhead costs</u>		
Management & administration	-	-
Land cost (typical rental value)	-	-
Other (specify) _____	-	-
II. <u>Total overhead costs</u>		36.58
<u>TOTAL COSTS FOR SEED COTTON (I + II)</u>		463.93
MINUS - value of cottonseed extracted in ginning		69.28
<u>NET COSTS FOR LINT</u>		394.65
<u>Net costs for lint in US cents per pound</u>		167.30
<u>Rate of exchange used for converting local currency into US dollars</u>	8.2 T.Shs = US\$ 1.00	
<u>Additional remarks:</u> Wage rate, 1 man-day = US\$ 1.59		

*Small scale farms

	Country	THAILANDE	Crop year	1980/81*
Yield used (kilos per hectare)				
for seed (unginned) cotton	1,254.19			
of which: Cotton lint	418.06			
Cotton seed	836.13			

Item	Average estimated cost per hectare 1/	
	Quantity used per ha. (specify unit) 2/	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor		154.73
Power 3/		58.14
Equipment 4/		12.83
Seed		8.15
Fertilizer		5.75
Herbicides . . . . .	)	159.15
Insecticides & fungicides		
Defoliant & other chemicals		-
Irrigation		-
Custom or contract work		-
Other (specify) _____		-
(A) Subtotal		398.75
<u>Harvesting:</u>		
Labor		97.90
Power		1.73
Equipment		-
Custom or contract work		-
Other (specify) _____		-
(B) Subtotal		99.63
(C) Interest on operating capital		39.09
<u>Off farm direct costs</u>		
Transportation to gin		6.87
Ginning (including bagging & ties)		65.84
Other (specify) 1. Expense for buying seed cotton) 2. Labor		2.02
(D) Subtotal		75.13
I. Total direct costs (A+B+C+D)		612.60
<u>Overhead costs 5/</u>		
Management & administration		-
Land cost (typical rental value)		32.46
Other (specify) _____		-
II. Total overhead costs		32.46
TOTAL COSTS FOR SEED COTTON (I + II)		645.06
MINUS - value of cottonseed extracted in ginning		121.18
NET COSTS FOR LINT		523.88
Net costs for lint in US cents per pound		56.84
Rate of exchange used for converting local currency into US dollars	20.70 bahts = US\$ 1.00	

Additional remarks: *Preliminary data
1/ national average 2/ not available 3/ including expense
for using of animal 4/ including depreciation and repairing 5/ cost of the farm
operation only. Remark: Net cost for lint is the cost at farm gate.
Source: 1. Department of Agricultural Extension 2. Office of Agricultural Economics
3. Marketing Organization for farmers, Ministry of Agriculture and Cooperatives.

	Country	TURKEY	Crop year	1980/81
Yield used (kilos per hectare)				
for seed (unginned) cotton		2,200	(Cukurova)	2,450 (Aegean)
of which: Cotton lint		792	(irrigated)	931 (irrigated)
Cotton seed		1,320		1,470

Item	Average estimated cost per hectare	
	Cukurova	Aegean
<u>On farm direct costs</u>		
<u>Cost in US\$</u>		
<u>Preharvesting:</u>		
Labor	206.35	234.38
Power	48.75	) 245.83
Equipment	54.13	
Seed	9.12	19.79
Fertilizer	39.58	32.29
Herbicides	9.37	10.73
Insecticides & fungicides	109.37	28.02
Defoliant & other chemicals	-	-
Irrigation	10.94	17.50
Custom or contract work	-	7.29
Other (specify) <u>Aerial spraying</u>	7.81	22.92
(A) Subtotal	495.42	618.75
<u>Harvesting:</u>		
Labor	162.50	306.25
Power	9.38	11.46
Equipment	8.85	
Custom or contract work	-	23.96
Other (specify)	-	0.21
(B) Subtotal	180.73	341.88
(C) <u>Interest on operating capital</u>	98.04	112.50
<u>Off farm direct costs</u>		
Transportation to gin	5.20	28.13
Ginning (including bagging & ties)	103.12	132.29
Other (specify)	-	10.42
(D) Subtotal	108.32	170.84
I. <u>Total direct costs (A+B+C+D)</u>	882.51	1,243.97
<u>Overhead costs</u>		
Management & administration	27.04	34.90
Land cost (typical rental value)	208.33	20.83
Other (specify)	-	63.54
II. <u>Total overhead costs</u>	235.37	119.27
TOTAL COSTS FOR SEED COTTON (I + II)	1,117.88	1,363.24
MINUS - value of cottonseed extracted in ginning	206.25	245.00
NET COSTS FOR LINT	911.63	1,118.24
Net costs for lint in US cents per pound	52.21	54.48
Rate of exchange used for converting local currency into US dollars	1.00 US\$ = 96.00 TL.	
<u>Additional remarks:</u>		

	Country	TURKEY	Crop year	1980/81
Yield used (kilos per hectare)				
for seed (unginned) cotton		2,846	()
of which: Cotton lint		1,054	(	Antalya
Cotton seed		1,792	()

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	301 hr/ha.	183.84
Power	588 "	235.23
Equipment	44.3 hr/ha.	78.41
Seed		11.97
Fertilizer	384kg/ha(comp) 376kg/ha(N,fer)	67.67
Herbicides		
Insecticides & fungicides	2.07 kg/ha.	11.92
Defoliant & other chemicals	17.70 kg/ha.	219.03
Irrigation	-	-
Custom or contract work	3000-4000 tons	13.59
Other (specify) _____		18.30
(A) Subtotal		839.96
<u>Harvesting:</u>		
Labor	\$0.0784 x 2,846 kg	223.13
Power	15.9 hr/ha.	78.41
Equipment	15.9 hr/ha.	26.14
Custom or contract work	-	-
Other (specify) _____		
(B) Subtotal		327.68
(C) <u>Interest on operating capital</u>		175.19
<u>Off farm direct costs</u>		
Transportation to gin		29.80
Ginning (including bagging & ties)		155.14
Other (specify) _____		
(D) Subtotal		184.94
I. <u>Total direct costs (A+B+C+D)</u>		1,527.77
<u>Overhead costs</u>		
Management & administration		5.23
Land cost (typical rental value)		209.10
Other (specify) _____		
II. <u>Total overhead costs</u>		214.33
TOTAL COSTS FOR SEED COTTON (I + II)		1,742.10
MINUS - value of cottonseed extracted in ginning		281.02
NET COSTS FOR LINT		1,461.09
		62.88
Net costs for lint in US cents per pound		
Rate of exchange used for converting local currency into US dollars	1.00 US\$ = 96.00 TL.	
<u>Additional remarks:</u>		

	Country	Crop year
	UGANDA	1980/81
Yield used (kilos per hectare)		
for seed (unginned) cotton	400 ^{1/}	
of which: Cotton lint	130	
Cotton seed	270	

Item	Average estimated cost per hectare ^{2/}	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor ^{3/}	109 man-days ^{4/}	399.66
Power	-	-
Equipment insecticide sprayer)	-	12.05
Seed	free	-
Fertilizer	-	-
Herbicides	-	1.25
Insecticides & fungicides	10 lts of DDT	1.25
Defoliant & other chemicals . . .	-	-
Irrigation	-	-
Custom or contract work	-	-
Other (specify) _____	-	-
(A) Subtotal		414.21
<u>Harvesting:</u>		
Labor	22 man-days	80.66
Power	-	-
Equipment	-	-
Custom or contract work	-	-
Other (specify) Primary marketing ^{5/}		20.00
(B) Subtotal		100.66
(C) Interest on operating capital		-
<u>Off farm direct costs</u>		
Transportation to gin		
Ginning (including bagging & ties))		
Other (specify) _____)		50.00
(D) Subtotal		50.00
I. Total direct costs (A+B+C+D)		564.87
<u>Overhead costs</u>		
Management & administration		
Land cost (typical rental value)		
Other (specify) _____		
II. Total overhead costs		564.87
TOTAL COSTS FOR SEED COTTON (I + II)		564.87
MINUS - value of cottonseed extracted in ginning		16.87
NET COSTS FOR LINT		548.00
Net cost for lint in US cents per pound		191.21
Rate of exchange used for converting local currency into US dollars	8 U. Shillings = US\$ 1.00	

Additional remarks: 1/400 kg of clean cotton ie. AR only. 2/Based on recent survey in 5 principal cotton growing zones which together produce over 75% of the country's crop. 3/Labor contributes over 95% to the cost of production of cotton in Uganda. The costs of tool and equipment are minimal since these are shared among all the enterprises on the farm. Similarly the cost of chemicals is small since these are generally not being applied. Cost of labor applied to cotton increases as farmers substitute away from the crop because of opportunity cost considerations. 4/Here a man-day is defined as 3 full working hours per day per individual. 5/Labor involved in the movement of seed cotton to the primary buying centers. The above figures have been worked out on open market labor cost which, in rural areas, is about \$3.5 per man-day. The official labor wage is \$2.30 per man-day.

Country United States Crop year 1980

UNITED STATES--Cotton Production per Planted Acre and Per Pound
Lint by Cost Item, Specified Regions, 1980

	343	338	222	323	299
	Southeast	Delta	Southwest	West	United States
Dollars					
<u>COSTS PER ACRE</u>					
Variable	293.22	250.67	132.23	519.79	221.34
Seed.....	5.54	5.76	6.41	6.65	6.27
Fertilizer.....	40.54	28.69	8.79	32.19	17.81
Lime.....	4.62	1.28	---	---	0.48
Chemicals 1/.....	102.90	70.21	12.77	97.94	41.34
Custom operations 2/.....	13.01	9.79	4.00	27.21	9.04
All Labor	27.44	33.35	31.20	83.32	39.02
Fuel & lubrication	24.57	24.73	26.78	88.66	35.42
Repairs	38.86	39.23	16.66	54.26	27.88
Ginning	25.94	29.82	20.21	88.26	32.51
Purchased irrigation water...	---	---	---	24.70	3.71
Interest	9.72	7.81	5.33	17.60	7.86
Machinery ownership	116.40	109.20	58.59	155.44	85.98
Replacement	61.32	57.73	31.48	85.45	46.24
Interest	45.45	42.83	23.18	59.33	33.59
Taxes & insurance	9.63	8.64	3.93	10.66	6.15
General Farm overhead	10.38	10.17	8.41	15.97	9.98
Management 3/.....	42.00	37.00	19.92	69.12	31.73
Total, excluding land.....	462.00	407.04	219.15	760.32	349.03
<u>Land allocation:</u>					
Composit with--					
Current value 4/.....	64.02	80.36	43.11	188.82	73.27
Average acquisition value 5/.	36.26	48.18	21.86	111.82	41.24
<u>COSTS PER POUND OF LINT 6/</u>					
Variable.....	.847	.639	.664	.511	.605
Machinery ownership.....	.336	.279	.294	.153	.235
Farm overhead.....	.030	.026	.042	.016	.027
Management.....	.121	.094	.100	.068	.087
Total, excluding land.....	1.335	1.038	1.101	.748	.954

Country United States Crop year 1980

UNITED STATES--Cotton Production per Planted Acre and Per Pound
Lint by Cost Item, Specified Regions, 1980 (continued)

	Southeast	Delta	Southwest	West	United States
	Dollars				
<u>Land allocation:</u>					
Composite with--					
Current value.....	.185	.205	.217	.186	.200
Average acquisition value....	.105	.123	.110	.110	.113
Value of cottonseed	.094	.104	.102	.119	.109
<u>TOTAL PER POUND COST OF PRODUCTION 7/</u>					
With land at current value <u>8/</u>	1.426	1.139	1.216	.815	1.045
With land at acquisition value <u>9/</u>	1.346	1.057	1.109	.739	.958
YIELD PER ACRE (pounds)	346	392	199	1,017	366
PERCENT OF U.S. PRODUCTION	4.4	21.9	32.5	41.0	99.8

1/ Includes herbicides, insecticides, fungicides and harvest-aid chemicals not otherwise included under custom operations.

2/ Includes custom application of crop chemicals, the cost of chemicals in some cases, and custom harvesting and hauling.

3/ Based on 10 percent of above costs.

4/ Based on prevailing tenure arrangements in 1980, reflecting actual combinations of cash rent, net share rent, and owner-operator land instead of current land value.

5/ Same as footnote 4, except average value of cropland during the last 35 years is used for owner-operator land instead of current land value.

6/ Costs per pound of lint before deducting value of seed produced.

7/ Total cost per pound of lint less value of seed.

8/ Total cost with land allocation based on a composite of prevailing tenure arrangements and current land values (see footnote 4 above).

9/ Total cost with land allocation based on a composite of prevailing tenure arrangements and acquisition values (see footnote 5 above).

NOTE: Blanks indicate not applicable.

Country United States Crop year 1980UNITED STATES --COTTON: SPECIFIED INPUTS PER ACRE PLANTED, SELECTED
REGIONS, 1980

Item	Southeast	Delta	Southern Plains	Southwest	United States
<u>Hours per acre</u>					
<u>Labor</u>					
Preharvest	5.19	7.66	8.15	15.35	8.90
Harvest	2.24	2.07	.74	3.04	1.42
Total	7.43	9.73	8.89	18.39	10.32
<u>Tractors</u>	2.7	2.8	2.7	4.4	3.0
<u>Harvest Machinery 1/</u>	1.9	1.7	.6	2.5	1.2
<u>Pounds of nutrients</u>					
<u>Fertilizer</u>					
Nitrogen (N)	72	71	18	108	46
Phosphate (P ₂ O ₅)	54	26	14	18	0
Potash (K ₂ O)	71	32	2	2	12

1/ Includes harvesting and hauling.

~~982.27~~
1377.73

1120

Yield used (kilos per hectare)
 for seed (unginned) cotton 945
 of which: Cotton lint 350
 Cotton seed

Country UPPER VOLTA Crop year 1979/80

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	90 x 350	140.00
Power		-
Equipment Renting of sprays		-
Seed		
Fertilizer	88.2 x 45	17.64
Herbicides		
Insecticides & fungicides	7.2 x 440	14.08
Defoliant & other chemicals		
Irrigation		
Custom or contract work		
Other (specify) _____		
(A) Subtotal		171.72
<u>Harvesting:</u>		
Labor	40 x 350	62.22
Power		
Equipment		
Custom or contract work		
Other (specify) _____		
(B) Subtotal		62.22
(C) <u>Interest on operating capital</u>		
<u>Off farm direct costs</u>		
Transportation to gin		29.33
Ginning (including bagging & ties)		30.83
Other (specify) _____		
(D) Subtotal		60.16
I. <u>Total direct costs (A+B+C+D)</u>		
<u>Overhead costs</u>		
Management & administration		
Land cost (typical rental value)		
Other (specify) _____		
II. <u>Total overhead costs</u>		18.00
TOTAL COSTS FOR SEED COTTON (I + II)		312.10
MINUS - value of cottonseed extracted in ginning		26.57
NET COSTS FOR LINT		285.53
Net costs for lint in US cents per pound		37.00
Rate of exchange used for converting local currency into US dollars	1 dollar E.U. = 225 F CFA	
<u>Additional remarks:</u>		

Country WEST INDIESCrop year 1980Cost of Planting and Harvesting One acre of Cotton

Land Preparation	130.00
Seeds-20 lbs at 10 cents per lb	2.00
Sowing-2 women-days at \$9.00 per day	20.00
Thinning - 1 woman-day	10.00
Fertilizer - 2 cwt SA	80.00
Application 1 week day	10.00
Weeding - 3 times	300.00
10 week-days by hand per acre	
Pests - 1 spray 18 ozs at 90 cents per oz	16.20
3 sprays Thionex 4-1/2 lts	68.58
3 man-days	30.00
Picking - 800 lb yield at 30 cents per lb	240.00
Cleaning 800 lb yield at 30 cents per lb	240.00
Clean (sanitation) 1 acre	61.80
Transport	10.00
	<hr/>
	\$1,218.58
	<hr/>

Revenue: 800 lb Seed Cotton at \$2.00 per pound = \$ 1,600.00

Yield used (kilos per hectare) *	Country	<u>ZAIRE</u>	Crop year	<u>1979/80</u>
for seed (unginned) cotton		<u>400</u>		
of which: Cotton lint		<u>144</u>		
Cotton seed		<u>250</u>		

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor 1/	145 man-days	120.83
Power	-	-
Equipment	1 hoe & one machete for 2 years	6.67
Seed	Free	-
Fertilizer	-	-
Herbicides	-	-
Insecticides & fungicides	Free	-
Defoliant & other chemicals	-	-
Irrigation	-	-
Custom or contract work	-	-
Other (specify) _____		
(A) Subtotal		127.50
<u>Harvesting:</u>		
Labor	16 man-days	13.33
Power	-	-
Equipment	-	-
Custom or contract work	-	-
Other (specify) <u>Burning old trees</u>	10 man-days	8.33
(B) Subtotal		21.66
<u>THEORETICAL TOTAL COST FOR THE FARMER</u>		
		<u>149.16</u>
Cost per pound of seed cotton:		16.78 cents
Price paid for seed cotton:		13.61 cents

Off farm direct costs are not charges for farmers. These are charges for cotton companies that buy seed cotton from farmers at the price fixed by the Government.

The companies organize extension services in order to help farmers in cultivation. They receive, in return, subsidies on insecticides, road rehabilitation, financing and extension services.

The costs are as follows for one metric ton of lint:

1. Buying of seed cotton	\$	927.00
2. Cost of production		342.33
3. Cost of commercialization		601.00
4. Cost of ginning		728.00
5. Other costs		74.00
		<u>2,672.33</u>
Minus value of seeds		124.67
		<u>2,547.66</u>

Net costs for lint in US cents per pound	130.63
Rate of exchange used for converting local currency into US dollars	3 Z = US \$1.00

Additional remarks: *There are some areas where yield is about 800 to 1,000 kg per ha. 1/The cost is the ordinary salary of non-specialized worker in area of cotton production; it is a theoretical cost because the farmer works for himself.

Cotton production in Zaire is made only by small farmers. They plant 0.3 to 0.5 ha. per year and work only by hand. All production of seed cotton is bought by cotton companies and transported on an average of 90km from farms to ginneries.

	Country	ZAMBIA	Crop year	1980/81
Yield used (kilos per hectare)				
for seed (unginned) cotton		1,800		
of which: Cotton lint		600		
Cotton seed		1,200		

Item	Average estimated cost per hectare	
	Quantity used per ha. (specify unit)	Cost in US\$ (Supplementary irrigation)
<u>On farm direct costs</u>		
<u>Preharvesting:</u>		
Labor	6 man-days	17.59
Power	-	-
Equipment	10.5 tractor hours	175.91
Seed	20 kgs	17.59
Fertilizer	400 kgs compound V; 200 kgs A/N	112.58
Herbicides	Treflan 2.5l, Gesagard (34\$N)	-
.	2kg & diurion 1.5kg	59.28
Insecticides and fungicides	Ripcord 1.2l dimethoate 0.75l	86.19
Irrigation	150MM application	29.32
Custom or contract work	-	-
Other (specify) _____	-	-
(A) Subtotal		498.46
<u>Harvesting:</u>		
Labor	Picking of seed cotton	144.00
Power	8 cents per kg	-
Equipment	Nominal	2.35
Custom or contract work	-	-
Other (specify) _____	-	-
(B) Subtotal		146.35
(C) Interest on operating capital		55.12
<u>Off farm direct costs</u>		
Transportation to gin (farmer)		39.87
Ginning (including bagging & ties) (LINTCO)		253.30
Other (specify) <u>Management & Administration (LINTCO)</u>		211.09
(D) Subtotal		504.26
I. Total direct costs (A+B+C+D)		1,204.19
<u>Overhead costs</u>		
Management & administration		26.39
Land cost (typical rental value)		11.73
Other (specify) _____		-
II. Total overhead costs		38.12
TOTAL COSTS FOR SEED COTTON (I + II)		1,242.31
MINUS - value of cottonseed extracted in ginning		140.72
NET COSTS FOR LINT		1,101.59
Net costs for lint in US cents per pound		83.28
Rate of exchange used for converting local currency into US dollars	ZMK 1 = 1.1727 US\$	

Additional remarks:

The above costs apply to commercial farmers who deliver seed cotton to ginners. Only 5% of seed cotton produced is from commercial farmers. Small scale farmers deliver to LINTCO rural depots. The costs do not include seed cotton marketing costs (purchases) by LINTCO I.E. 1,800 x 88 cents = \$1,584.00. Production costs for small scale farmers are not available at the moment but will be available in the coming crop year.

IRRIGATED
2,300
805
1,495

DRYLAND
1,500
525
975

Yield used (kilos per hectare)
for seed (unginned) cotton
of which: Cotton lint
Cotton seed

Item	Estimated cost per hectare		
	Dryland cotton	Irrigated cotton	
	Quantity used per hectare (specify unit)	Quantity used per hectare (specify unit)	
	Cost in US\$	Cost in US\$	
<u>On farm direct costs</u>			
<u>Preharvesting:</u>			
<u>Labor: General</u>			
	47.91 labor-days general workers at \$1.35/labor day = Z\$64.68 11.09 labor days tractor drivers at \$1.77/labor day = \$19.63	Same as for the Dryland crop	127.54
Power and equipment (Includes tractor operating cost repairs and maintenance insurance and licences)	99 liters diesel at 74.04c/lt. Fuel and lubricants at 32.94c/lt. and 41.10c/lt. Repairs and maintenance, insurances and licences	Same as for the Dryland crop	110.89
Seed (Albar variety)	25kg/hectare at \$7.50/50kg. bag	25kg/hectare at Z\$7.50/50kg bag	6.52
Fertilizer	350 kg compound L at \$135.00/ton = \$47.25 1/2 50 kg ammonium nitrate at \$168.20/ton = \$8.41 250 kg lime at \$16.20/ton = \$4.05 Transport of 650 kg fertilizer at \$5.73/ton = \$3.72	400 kg compound L at Z\$135.00/ton 1/2 100 kg ammonium nitrate at Z\$168.20/ton 250 kg lime at Z\$16.20/ton = Z\$4.05 Transport of 750 kg fertilizer = Z\$4.30	120.01

Continued . . .

Country ZIMBABWE (Cont'd.)

Item	Estimated cost per hectare	
	Dryland cotton	Irrigated cotton
	Quantity used per hectare (specify unit)	Quantity used per hectare (specify unit)
	Cost in US\$	Cost in US\$
Herbicides	<p>1.6 liters Trif at \$123.00/20 liters = \$9.84 2.80 kg Cotoran at \$45.15/5kg = \$25.28 1.25 kg Diuron at \$120.36/25 kg = \$6.02 0.50 liter Gramoxone at \$22.75/5 liter = \$2.28</p>	<p>1.60 liters Trif at \$123.00/20 liters = \$9.84 2.8 kg. Cotoran at \$45.15/5kg = \$25.28 1.5 kg Diuron at \$120.36/25kg = \$7.22 0.50 liter Gramoxone at \$22.75/5 liter = \$2.28</p>
Insecticides & fungicides	<p>Carbaryl: 2x0.588 kg and 6x1.176kg at Z\$102.81/25kg = \$33.85 Thiodan: 2x0.428 liter and 2x0.856 liter at Z\$386.57/100 liter = \$9.93 DDT: 3x1.33kg at \$54.79/25kg = \$8.76 Tedion: 2x1.2 liter at \$3.69/liter = \$8.43 Dimethoate: 1x0.125 liter and 1x0.250 liter at \$112.30/25 liter = \$1.68 Molasses: 4 liter/sprayx9sprays at \$0.15/liter = \$5.40</p>	<p>Same as for the dryland crop</p>
Defoliant and other chemicals	Nil	Nil
Irrigation	Nil	Overhead sprinkler assumed electricity is budgeted at Z\$3.78 per hectare per application. 700 mm (gross) of water assumed in 10 irrigations.
	65.70	67.50
	102.95	102.95
	Nil	Nil
	Nil	57.18

Continued . . .

Country ZIMBABWE (Cont'd.)

Item	Estimated cost per hectare		Irrigated cotton	Cost in US\$
	Dryland cotton			
	Quantity used per hectare (specify unit)	Quantity used per hectare (specify unit)		
Custom or contract work	Contract aerial spraying 9 insecticide sprays for 100 ha assumed.	Contract aerial spraying 9 insecticide sprays for 100 ha assumed.		55.82
Other (specify)	Nil	Nil		Nil
(A) Subtotal				648.41
<u>Harvesting:</u>				
Labor	Cotton picking labor receive 3c/kg of cotton picked	Cotton picking labor receive 3c/kg of cotton picked		104.38
Power and equipment	Included under tractor operating	Included under tractor operating		-
Custom or contract work	Included under cotton picking labor	Included under cotton picking labor		-
Other (specify)	Nil	Nil		Nil
(B) Subtotal				104.38
(C) <u>Interest on operating capital</u>	9% per annum for cropping period of 9 months	9% per annum for cropping period of 9 months		40.18
<u>Off farm direct costs</u>				
Transport off farm	A 30km journey is assumed at \$4.14/ton	A 30km journey is assumed at \$4.14/ton		16.57
Bagging and ties	8 packs/hectare required at Z\$0.25/pack (hiring)	13 packs/hectare required at Z\$0.25/pack (hiring)		4.64

Continued . . .

Country ZIMBABWE (Cont'd.)

Item	Estimated cost per hectare		Irrigated cotton
	Dryland cotton		
	Quantity used per hectare (specify unit)	Cost in US\$	Quantity used per hectare (specify unit)
Other: Crop insurance	2.30% of crop value	19.92	2.30% of crop value
Levies	1.40% of Gross income/ha of Z\$572.40	12.12	1.40% of Gross Income/ha of Z\$877.68
Miscellaneous costs	allowance to cover unexpected costs	3.31	allowance to cover unexpected costs
(D) Subtotal		47.77	
I. Total direct costs (A+B+C+D)		713.51	866.66
Overhead costs			
Management and administration		26.32	
Land cost (typical rental value)		19.02	
Other: general maintenance		25.13	
interest and redemption		35.67	
payments on long-term loans			
Owner's capital maintenance		27.12	
II. Total overhead costs		133.26	143.94
TOTAL COSTS FOR SEED COTTON (I+II)		846.77	1,010.60
MINUS - value of cottonseed extracted in ginning	65% of total mass i.e. 975 kg at 10c/kg.	147.50	65% of total mass i.e. 1495 kg at 10c/kg.
NET COSTS FOR LINT	35% of total mass i.e. 525 kg	699.27	35% of total mass i.e. 805 kg. 784.44

Continued . . .

Country ZIMBABWE (Cont'd.)

Item	Estimated cost per hectare		
	Dryland cotton	Irrigated cotton	
	Quantity used per hectare (specify unit)	Quantity used per hectare (specify unit)	Cost in US\$
Net costs for lint in US cents per pound			44.20
Rate of exchange used for converting local currency to US dollars	Z\$1.00 = US\$ 1.5128		60.42

Additional remarks:

1/ Compound L = 5%N, 18% P₂O₅, 10% K₂O

The figures derived are not actual national averages but estimates based on established physical input-output levels agreed upon between the Ministry of Agriculture and farmers' unions.

These costs are updated by utilising current price information, and future viability is assessed by using various forecasting techniques.

These costs are applicable to cotton growing in the commercial agricultural sector; they are not relevant to peasant agriculture where the level of physical input usage is very low.