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FORESTRY PLANNING AND DEVELOPMENT PROJECT

CONSULTANCY REPORT

A SURVEY OF THE
TRUCK & BUS BODY, TRACTOR TROLLEY AND BOAT
BUILDING INDUSTRY IN PAKISTAN

By

MSJ Research Institute

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Trade names of wood used in the report and
their equivalent botanical names

Kikar/Babul	Acacia nilotica
Bahan	Populus euphratica
Cheer	Pinus roxburghii
Kail	Pinus excelsa/wallichiana
Partal/Fir	Abies pindrow
Dayar/Deodar	Cedrus deodara
Walnut	Juglans regia
Poplar/Sufaida	Populus spp/euamericana/nigra
Chilghoza	Pinus gerardiana
Shisham	Dalbergia sissoo
Mulberry/Toot	Morus alba
Sofaida	Eucalypts spp.
Oak	Quercus spp.
Farash	Tamarix articulata/aphylla
Teak	Tectona grandis

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Unorganised Wood-using Industries

Truck & Bus Body, Tractor Trolley
and Boat Making Industry

I N T R O D U C T I O N

This study survey is one, among five others, which pertain to the "unorganised" wood using industries and is exclusively devoted to the Truck/Bus/Trolley/Boat Industry in Pakistan. This survey, like the others, was sponsored by Inspector General of Forest, Government of Pakistan, Winrock International/USAID Islamabad. MSJ Research Institute Karachi had the honour of having been commissioned to undertake this research survey with a unique distinction that it is the first of its kind ever carried out in a systematic manner.

Undertaking a pioneering work, such as this, concerned exclusively with an "unorganised" industry has, as would be expected, its own challenging tasks and limitations, neither commonly known nor well realised. Despite the difficulties encountered, which were inevitable, a job of work has been accomplished as never before.

This report presents many aspects of the truck/bus/trolley/boat industry, as covered by the questionnaire provided by the sponsors. All the desired information has been gathered so that a good profile of this "unorganised" industry has emerged.

It is by no means a complete picture of this important industry for the simple reason that the research survey deals with fifty five manufacturing units in the eleven selected cities while hundreds of others have yet to be reached for gathering further information, if and when, a more exhaustive or comprehensive nationwide survey is planned. Hopefully then, this report will provide a solid base for an indepth study of many other aspects too which were beyond the terms of reference or outside the scope of the present project.

The information gathered and given a shape in this report, follows the sequence of the questionnaire. Information required under Q.12 & 13 has been placed at the end of the report so as to be helpful for being used as a reference whenever such need arises.

The information on requirement of wood (Q.7) and consumption of wood (Q.14) have been treated together so as to give a better perspective.

Boat building industry has been taken up individually in order to emphasise its distinct character.

It is hoped that this report helps open new vistas and broadens the horizon which will strengthen the foundations on which policies are formulated and important decisions are taken.

S U M M A R Y

This report represents a partial survey among the several other research surveys of "unorganised wood using industries" sponsored by Winrock International/USAID, and deals with the Truck/Bus/Trolley/Boat industry.

The survey work, embracing eleven cities, brought fifty five truck/bus/trolley manufacturing units within the orbit of study.

While only 2 manufacturing units existed in 1960, the industry grew rapidly, 52 more sprung up within a span of 30 years.

The industry has no wholesale or retail sale marketing; it caters the needs of its clientele and work is undertaken on contract basis.

The industry is well equipped with necessary machinery and tools.

The industry, that is the fifty five manufacturing units required and utilised 42526 cft. of wood in the course of one year; turning out 309 truck, 276 bus, 55 mini bus, 47 ambulances bodies; 18 trolley and 15 boats.

The annual sales value of these fifty five firms was Rs.52,319,000/-

The most favoured or commonly used wood species are Shisham, Partal, Kikar, Cheer.

The boat building industry (five firms) receive a separate treatment because it has a distinctive character. Between 1987-1989 these firms produced 41 boats. Their total requirement or consumption of wood in that period of 3 years was 29400 cft.

Research Methodology
For
Primary Information Gathering

Never before there was any systematic plan drawn out to collect information about an "unorganised wood using industry" such as Truck/Bus/Trolley/Boat. A survey methodology was therefore adopted in this study, a design also suggested in terms of reference.

The units of the industry, unorganised as it is, are spread all over the country and the sizes of the units vary considerably. The survey approach was therefore well suited to pick up the salient trends of the industry more effectively. Besides, the Truck/Bus/Trolley/Boat industry never came under the focus of study which might have targeted it as a wood using industry.

Conforming with the questionnaire provided by the sponsors of the project, the following information was tapped by this survey approach :

- A. Profile of the firms obtained through interviews.
- B. Scale of operation investigated.
- C. Specific information obtained about wood usage.

The questionnaire was administered to key persons in the sampled firm. This was done to ensure that the interviewee prepared himself to furnish information about all the facts of operations.

Sampling Methodology :

Three stage sampling methodology was utilised for this study.

The mechanics of the approach was as under :-

A. Phase-1. Selection of cities :

In this initial phase four cities, from each province, were identified. The selection of cities was done on the basis of level of activity in the selected cities.

The list of selected cities from each province is given in Table-1.

B. Phase-2. Identification of clusters of activity :

In the second stage of sampling, clusters of activity were identified in the cities which were selected in phase-1. These clusters were formed on the basis of geographical proximity. Endeavours were made to form clusters with a view to achieving inter-cluster homogeneity and intra-cluster heterogeneity. In other words, there had to be enough variation within each cluster so that a cluster became a miniature model of the target population of the industry.

C. Phase-3. Selection of clusters for interviewing :

From out of the list of clusters made in phase-2, a cluster was randomly selected in phase-3. All the firms in the selected cluster were interviewed provided that the total of such firms was five or less. In case the cluster was larger, that is if it had more than five firms, the

cluster was partitioned into subclusters of size five each (number of firms in each sub-cluster was five). One of the sub-clusters was then selected randomly. Each firm of the selected sub-cluster was interviewed. A partial listing of establishments was done to form clusters.

Reading the Tables :

The numbers given in the tables are column percentages. Some figures appear within parenthesis preceded by N (). Such figures represent actual number of cases. When this parenthesis appears at the top of the column, it means that column percentages have been calculated. In some tables the figures represent averages at the top of the table. In such tables (N = 55) appears in each row. This indicates the number of firms that have been used to calculate averages. Information on interpreting the tables has also been provided at the top of each table wherever necessary.

The questions of which the responses have been used to form the table appear below the table heading.

Interpreting the Tables :

It would be well to remember while reading the tables that the figures have emerged from survey technique. One of the peculiarities of survey method is the reliance placed on the reporting of the interviewees. The self reporting of the respondent may be somewhat removed from reality or off the mark owing to reasons

like lack of precise information with the respondent (e.g. actual wood consumption in the last three years); inability to translate the required information in the desired format, (e.g. failing to express things in percentages); failure to articulate his point of view (e.g. what problems you face in wood procurement ?) and sensitive nature of question (e.g. what is the value of your annual sales).

Such then, is the case with all surveys. Consequently, the findings of the study should be taken as suggestive and indicative. The figures merely reflect the general trend of the industry. The accuracy and exactitude found in historical accounting data is altogether missing in survey data.

Results of the Survey

Selected Cities & Samples :

The clusters of activity with regard to Bus/Truck/Trolley/Boat industries were judiciously selected in the eleven cities of Pakistan where the industry is conspicuously concentrated. There are two hundred and ninety seven industrial units in these eleven cities.

Samples for research-survey were carefully picked up from every city's industrial unit which could provide maximum information. Table-1 lists the cities, manufacturing units & samples.

Establishment of Firms :

There are fifty five Truck/Bus/Trolley/Boat firms with which this study is mainly concerned, because these are the samples selected. The first consideration was to find out when these firms were established. It was revealed that only one firm existed in 1950; ten years later in 1960 there were two firms. A decade later in 1970 the number of firms increased to ten. However still more firms got established in the next ten years period, the number increasing to thirteen. And the growth of this industry was yet more rapid in the succeeding decade, so that the number of firms increased to twenty nine before August 1990, the time when this research survey was embarked upon.

Table-2 may be seen which depicts the establishment period of the fifty five firms included in the sample.

Stage of Processing :

"Harvesting trees, transporting logs; debarking logs" are the stages of wood processing with which the truck/bus/trolley/boat industries do not concern themselves.

There are only seven firms, out of the fifty five surveyed, who have the arrangements to saw/slice the logs. Fifty one firms are engaged in fabricating wood product and forty seven do the finishing work of wood product.

Out of the fifty five firms covered by this survey, twenty one truck/bus/trolley/boat firms work exclusively on contract. In other words, these firms do not make the bodies of truck/bus/trolley on their own, rather they cater for those who place specific orders with them to make the vehicle's bodies. Such being the situation, the question of conducting "wholesale distribution or retail distribution" does not arise.

Table-3 shows these details.

Equipment :

Of the fifty five truck/bus/trolley/boat firms covered by this survey, ten firms have vertical Band Saw; five have Horizontal Band Saw; nineteen have Presses; three have Moulder; thirty seven have Drills; two have Jointer; thirty seven have Welding Machine; three have Roller, sixteen have Cutter (used for Plastics).

Thirty two firms did not wish to disclose the sizes of their equipment. However, those firms who have more than one equipment of a type and could give the sizes have been listed. For more details Table 4, 4-A & 4-B may be referred to.

Annual Production :

The four "primary products" turned out by the truck/bus/trolley/boat industry are : bus, truck, minibus and ambulances, in order of importance. They^{are}/also, in addition, undertaking repair works.

It would be observed that the firms surveyed were able to produce, in the current year, 276 bus, 309 truck, 55 minibus, 47 ambulances, 18 trolley, 15 boat in addition to repairs of 44 vehicles.

The yearwise details of "annual production of the items are tabulated in Table-5. Further breakup of production by manufacturing units in specific cities is shown in Table 5-A. As to how many manufacturing units have been producing each type of product over the years 1987-1989 has been portrayed in Table 5-B.

Operating Capacity :

Considering the percent of capacity these firms are operating at, it would be well to bear in mind that most of them depend on the orders they receive for making the bus/truck/trolley/boat bodies and that they do not generally have ready made products to 'buy off the counter'. Seen in this light, it would be noted that only 11% firms work below 36% of their capacity while the majority of them are working at 40% - 50% capacity. These details have been tabulated in Table-6. However an isolated case of S.H. Ettehad Body Makers of Kumu who are operating at 90% of the capacity has not been shown in the table-6.

Wood requirement/consumption :

The four main wood species used in the industry are Shisham; Partal; Deodar; Kikar, but Cheer and some Chilghoza wood is also used.

Looking at their requirement of wood over the years 1987-1989, it is seen that these fifty five firms, between them, required a total volume of logwood to the extent of 7144 cft (1987); 8602 cft (1988); 9622 cft (1989). A rising trend of logwood requirement is evident.

The lumber requirement too, seen in its totality shows similar rising trend; 22030 cft (1987); 23965 cft (1988); 24150 cft (1989).

As for branchwood, the total requirement was 1741 cft (1987); it went up slightly to 1787 cft in 1988 and declined to 1474 cft in 1989.

The scantlings of only two species, namely Shisham and Partal were used but the requirement of the fifty five industries surveyed shows a significant upward trend being 1183 cft in 1987; 1678 cft in 1988; and 1887 cft in 1989.

In Table 7, to 7-C, a more detailed portrayal of this aspect may be seen.

The "source of raw material" that is wood, invariably in all cases is "private" which, in the commonly used terminology, is the middle man.

A very significant point to be given a special consideration is the fact that it is almost impossible for the truck/bus/trolley/boat manufacturers to differentiate between the requirement and consumption of wood. Indeed, this is a delicate point as there is, from their viewpoint, a thin line between the two or at any rate subtle differentiation. Anyway, their point has a degree of validity because they purchase the volume of woods needed as and when they receive the orders to make the bodies of the vehicles. In such a situation they would not wish even to risk a guess for future requirements or/and consumption of wood.

Without stretching the above point any further the question of actual current consumption of wood may now be taken up. The total consumption of 'A' grade Shisham by 9 firms is 5505 cft. while 40 firms use 'B' grade Shisham, the current year's consumption being 35331 cft. Likewise four firms are using B grade Partal, their total current consumption being 1390 cft. and only one firm takes 140 cft. of A grade Partal. Only one firm is currently using 160 cft. of Deodar B grade. Seen in totality the truck/bus/trolley/boat industry is currently consuming 42526 cft. of wood and this figure was given as in August 1990.

Reverting to the total consumption of wood by these fifty five manufacturing ^{units} in 1989, it would be seen that last year the total volume of wood consumed in all categories was 37132 cft. while the current year's (upto August 1990) has been specified to be 42526 cft. Details are given in table-12-B.

The species-wise current consumption of wood as specified by each of the fifty five truck/bus/trolley/boat manufacturing units has been charted in Table-12-C which may be referred to.

Mode of wood delivery :

Unlike some other unorganised wood industries, the truck/bus/trolley/boat industries do not use push cart for carriage of wood to the factory nor is the wood hand carried.

The commonly used transport for wood deliveries to the factories are Truck and Animal Cart which are taken advantages of, suiting the convenience and keeping the economy in view. The Table-8 depicts a correct position.

Wood prices :

Since most of the truck/bus/trolley manufacturing units do not make use of high quality or high grade wood, the prices they pay are relatively low. However, the prices differ from city to city and a comparison is not likely to lead to any worthwhile conclusions. Indeed some confusion could be caused if it was argued why Shisham's price at Bannu is Rs.45/- per cft, Rs.90/- per cft in Lahore, Rs.70/- per cft in Karachi and Rs.100/- per cft in Hyderabad. Evidently normal reasoning or logic does not apply and the market forces have to be accepted.

Apart from the wood species already specified namely, Shisham, Partal, Deodar, Kikar, the industry is not interested in using any other kind of wood. 'What is time-tested and tried is best for them'.

Invariably all manufacturing units obtain their wood supplies from private sources, the proverbial middle man.

Price escalation :

According to the firms situated in Bannu, the prices of wood have gone up by 25%. One firm in Lahore pays 25% higher price of wood than last year and another firm in the same city claims paying 30% more than in previous year. In Peshawar one firm pays 25% more while two firms in the same city pay 40% higher price and yet another pays 30% more than last year.

Wood price rise information is reproduced in Table--10.

Wood availability problems :

By and large, the truck/bus/trolley industrialists are showing growing concern for the price rise trend of the wood species. According to forty two (out of fifty five) manufacturing units the quality of wood does not match the price. The low quality wood reflects on their workmanship and undermines their reputation, while on the other hand suitable better of desired quality of wood is also highly priced and its use makes the product more expensive, which is generally most unwelcome for the clients who cannot easily appreciate the point or comprehend the situation, because they know too little about the qualities of wood. Thus, in the final analysis, the problem of wood availability boils down to the simple fact that wood of poor quality is highly

priced while suitable good quality wood is obtainable at a high premium which throws the business economics in disarray.

Another eight firms complained about taxes but, in reality, they are making the same point as the majority, namely, that high prices do not match the quality of wood and they are facing this problem with ever growing concern. As a remedy to this chronic problem they are trying to reduce the consumption of wood.

However, there were five firms, out of the fifty five covered by the survey, who encounter no difficulty or problem as far as wood availability is concerned. Reference Table-11.

Material Used --- other than wood :

There is an ever growing tendency among the truck/bus/trolley industry to diversify with a view to minimising the use of wood. The reasons are numerous, but by far the most important is the non-availability of desired quality of wood at reasonable price. Another reason is that consumers wish lighter material to be used and aesthetic aspect enhanced. Economic factor too, is evidently becoming ever more significant which is of vital concern to both the manufacturer and the user or the consumer.

Despite the very conscious effort being made by the manufacturers to cut down the use of wood in the construction of truck bodies, there are some overpowering factors which are beyond their control. One that defies every conceivable solution is the inherent nature of non-conductivity of heat in wood. Since the

wood does not heat up or cools as rapidly as metal, the trucks bodies made of wood, are ideally suited to transport livestock, (cattle & sheep), particularly in Balochistan. Metal is also apt to cause serious injuries to livestock. So those who use their trucks for such purposes insist on the truck bodies made of wood. Likewise many bus owners still prefer wood so that buses do not heat up causing discomfort to passengers travelling long distances.

Having noted the foregoing points, it remains an unalterable fact that invention of plastics has revolutionised the conceptions and perceptions of the manufacturers as well as the consumers. Consequently the truck/bus/trolley manufacturers are increasingly using plastic or plastic covered wood popularly known as formica. There are twenty five manufacturers (out of fifty five) who are now using, among them, as many as 9113 plastic sheets; each sheet originally measuring 8ft x 4ft, cut down according to dictates of work or used as such if so needed. The advantages are that plastics are lighter, cheaper, attractive and beautiful.

Iron too is now readily available and often times more economical as well as stronger. With the Hinopak bus manufacturers having entered the market with a bang, the traditional manufacturers have to compete with them. Thus Hakimullah & Brothers, Karachi, the largest and oldest bus body makers of Karachi are now making steel-iron bodies of buses, made to order, of course. Now there are thirty manufacturing units (out of fifty five) who, between them, are using "9434 mds" or 377360 kg of iron.

Another five firms are using copper to the tune of 80000 kg but that is in boat building industry, about which more later.

Table-12 gives the details.

Wood Waste :

The annual wood waste is around 18% on an average in the respective industries. The wood waste is mostly the discarded pieces of wood, shaving and saw dust. The bus/truck/trolley industry scarcely care or bother too much about recovering part of their cost through the sale of wood waste. Even so, because there is a demand for such material for fuel, they have permanent customers who come to the factory and pick up all types of wood waste which is sold away at Rs.20/- per 40 kg. That is the prevailing rate almost universally applied for the disposal of wood waste.

There are thirteen manufacturers (out of fifty five) who do not even bother to obtain any sale proceeds from wood waste which is given away as a matter of generosity, favouring the poorer section of the society.

The forty two factories who disposed of their wood waste charging a price, had varied quantities. However the details are shown in Table-12-A. The total sale value amounted to Rs.89,958 concerning these 42 factories.

Distribution cost of production :

The cost of wood as a percentage of total cost of production in the truck/bus/trolley industry varies. There are six firms (out of fifty five) whose cost of wood is 15% of the total cost of production; there are twenty seven firms whose cost of wood is 17% and twenty two firms whose cost on wood is 20% of the total cost of production.

As for the cost on labour, seventeen firms spend 15% on labour being the percentage to the total cost of production; nine firms pay 20%, thirteen firms spend 25% and sixteen firms show their cost of labour as 30% of the total cost of production.

With regard to operating cost, eighteen firms spend 10% on operations as a percentage of the total cost production; nineteen firm spend 15% while eighteen firms show 20% as operating cost in relation to the total cost of production.

Refer to Table 13, 13-A & 13-B.

Annual sales value :

The selected sample of fifty five truck/bus/trolley/boat manufacturing units is a reasonably fair representative of the size and capacity of the firms. The largest firm, enjoying a great reputation is that of Hakimullah & Bros., Bus Body Builders of Karachi whose annual value of sales is Rs.65,819,000/-. They are the leaders in this field of business.

Another firm engaged in boat building had been included in this survey as they are also the leading boat builders. Boat Makers Khalil(pvt) Ltd, Karachi have an annual sale value to the tune of Rs.14,000,000/-.

With the above two firms topping the list, there are those eight firm earning less than Rs.200,000/-; ten whose turn over is less than Rs.300,000/-; eight firms whose annual sales are less than Rs.400,000/-, two firms with less than Rs.500,000/- of annual sales; four with less than Rs.600,000/-; eight firms have annual sales of less than Rs.800,000/-; three firms earn less than Rs.1000,000/- six firms have less than Rs.2000,000/-; two firms get less than Rs.3000,000/- in annual sales and another two have a turn over of less than Rs.4000,000/- in annual sales.

The foregoing account furnishes a good enough profile of the truck/bus/trolley industry. However, it may be noted that there exist much smaller firms too who run this business but keep a low profile, staying well out of reach of the regulating agencies. The appearances might sometime be misleading so it must be stated that these humble looking small firms are well patronised and have a reasonably large clientele.

The total annual sales of the fifty five firms surveyed amounts to Rs.52,319,000/-.

Annual sales value Table-14.

Employees :

The firm of Hakimullah & Bros; Bus Body Builders of Karachi, as the largest manufacturing unit of truck/bus/trolley industry, included in the sample, also happens to have the strongest team of one hundred employees. Among others, there are thirty four firms who have upto 5 employees; fifteen firms who have upto 10 employees, three firms employ upto fifteen persons while another three firms have more than sixteen employees.

Altogether, the fifty five manufacturing units, employ a total of 414 employees which comes to an average of 7 employees per firm. Evidently the industry could not be considered labour intensive, and besides, they employ semi-skilled and skilled persons only. The smaller units are run by the owner who is almost invariably a highly skilled technician managing and supervising the team he gathers around him. He is the owner, manager, supervisor, guide and leader, all knowing, all powerful.

Boat Building Industry

Boat building industry merits a very special mention in the context of "unorganised wood using industries" of Pakistan, being the oldest and historically the most important. The river navigation used to be vital and by far the most important means of trade as well as means of transport. A vast fleet of boats plied the five rivers and Indus river played a pivotal role. The boat building industry in the country not only thrived but occupied a position of pride, the craftsmanship enjoyed a fame far and wide. A great variety of river crafts were made to suit various purposes. The advent of automobile and railways, however, caused the decline of this industry. In its present state, boat building industry is mostly of interest to fishermen and the section of population that resides near the rivers or the shore. So, there are boat builders still around, albiet scarcely noticed and little known.

Such then is the justification, if needed at all, for taking up the consideration of boat building separately. Within the limited scope of this survey, the boat building industry of Karachi has been the focus of attention. The information gathering, naturally, had to be confined to the scope set forth in the questionnaire and the account follows :

Firm names and their establishment :

There are five boat building firms in Karachi namely :

1.	Khalil (Pvt) Ltd. Fisheries Yard.	Established 1976
2.	Khuda Buksh Boat Builders, Korangi	" 1986
3.	Haji M.Suleman, Boat Makers, Fisheries Yard	" 1986
4.	Rahim Bukhsh, Korangi	" 1988
5.	Atta Mohammad, Fisheries yard	" 1988

Stage of wood processing :

Sawing/slicing of logs is done by one firm. All the five firms do the fabricating and finishing the wood products (boats).

None of the firms deal in wholesale or retail sale. All the five firms make the boats in accordance with the specific orders they receive from their clientele.

Equipment :

The type and sizes of main equipment pieces as used by the respective five firms is reflected in the following tabulated form :

Name of Firms	Type of Equipment	Size of Equipment	No. of Equipment
1. Khalil(Pvt) Ltd. Fisheries Karachi	Horizontal Band Saw	42"	1
	Vertical Band Saw	36"	1
	Jointer Planner	15"	1
	Boring Machine	-	2
	Electric Hand Drill	-	6
2. Khuda Buksh Korangi Karachi	Electric Hand Planer	-	2
	Electric Hand Drill	-	2
	Circular Saw	-	1
3. Rahim Bukhsh Korangi, Karachi	Electric Hand Planer	-	1
	Electric Hand Drill	-	1
	Circular Saw	-	1
4. Haji M.Suleman Boat, Maker, Fish- eries, Karachi	Electric Hand Planer	-	1
	Electric Hand Drill	-	1
	Circular Saw	-	1

5. Atta Mohammad Fisheries, Karachi.	Electric Hand Planer	-	1
	Electric Hand Drill	-	1
	Circular Saw	-	1

Annual Production :

The annual production in the boat making industry varies according to demand or orders they receive from the clientele. However the position obtaining in the last three years 1987 to 1989 was as follows :

In 1987, only three firms had an output of 10 boats.

In 1988, all the five firms among them produced 16 boats.

In 1989, the five firms had an output of 15 boats.

It has been noted earlier (see establishment of firms) that two firms got established in 1988. Obviously therefore, there were only three firms in 1987 which explains the reason why the output in 1987 was lower and by the same token, it becomes clear that the demand is increasing as the output of 1988 and 1989 reveals.

Operating Capacity :

The largest of the five boat building firms, namely, Khalil(pvt) Ltd. is operating at 80% of their capacity while Khuda Bakhsh Boat Makers, Korangi, operate at 45% of the capacity. The remaining three firms are each operating at 40% of their capacity. This reflects the extent of work load and the business.

Requirement of wood :

The wood requirement of the five boat building firms, is tabulated below :

L U M B E R

Initial form of wood used	Species	1987/cft	1988/cft	1989/cft	Remarks
Lumber	Shisham	1800(2)	4300(4)	3200(4)	Figures in brackets indicates the number of firms
	Deodar	2400(2)	4800(4)	4100(4)	
	Kikar	400(1)	800(1)	500(1)	
	Teak	2050(1)	2350(1)	2700(1)	
Total wood required in cft. by year		6650	12250	10500	

The figures above show the total wood requirement since the year 1987 to 1989 and the industry, as a whole, takes the wood in the form of lumber.

The source of wood supply is, in all cases, private. The only imported wood is Teak which is purchased from timber market as also the deodar, which comes from upcountry.

Mode of transport :

There is only one firm of Khalils who have all the wood delivered to their factory by trucks.

The other four factories use animal cart which make the deliveries of wood. This is economical and much more practical because the trucks cannot get to their factories owing to narrow lanes that lead to the workplace.

Wood prices :

The following table shows the prices of wood species of various grades that the boat industry purchases at :

Species	Wood Grade	Price in Rs./cft.
Shisham	A	150
Shisham	B	104
Deodar	A	350
Deodar	B	150
Teak	A	1450
Teak	B	1250
Kikar	B	70

Price rise :

Only one firm namely, Khalil & Bros., is paying 10% more toward the cost of wood while the other four firms are still purchasing their wood at the same rates as last year. One of the reasons is that Khalils use Teak which is imported and price rise is inevitable owing to exchange rate fluctuations. The others have such an arrangement with private parties that until now they have not demanded higher rate for the product they supply to the boat makers.

Source of wood supplies :

All the five firms procure their wood supplies from private sources including the Timber Market.

Wood availability :

None of the five firms has experienced any problem with regard to the availability of the wood needed. There is a fear that Teak prices may go up and the local wood species prices may also

appreciate in keeping with the general price rise trends of other commodities. Such problems in the availability of wood are being foreseen though no problems are being faced at present regarding its availability.

Wood consumption :

The current years' consumption is readily available with all the five firms while the next year's consumption figures are based on the orders already received till mid 1990. Further consumption of 1992 is based on guess work or hopes and expectations of better business.

The yearwise current and future consumption is shown in ~~in~~ *in Ann. for Industry*

Table below :

Form of wood	Species	Grade	1990 cft	1991 cft	1992 cft	Remarks
L U M B E R	Shisham	B	3700(5)	10600(5)	12600(5)	The figures in brackets indicate number of firms
	Deodar	B	2700(4)	5200(4)	6900(4)	
	Teak	A & B	1450(1)	2900(4)	3100(4)	

Other materials used :

The significant material, other than wood, used in boat building industry is copper, because that is the metal that is not liable to rust when in contact with water. The industry as a whole requires about 80000 kg of copper every year.

Wood waste :

The boat industry feels no concern with the recovery of any monetary return from wood waste sale. The wood waste is utilised by the firms in a variety of ways when it is useful or otherwise as fuel.

Distribution of production cost :

The following table portrays the distribution of cost of production on various items as a percentage of total cost of production. It may be noted that in the cost of wood is also included the cost of copper.

Cost of Wood as % at Total Cost	Labour	Operating
50 % (3)	35 % (3)	10 % (4)
55 % (2)	40 % (2)	15 % (1)

Annual sales value :

The five firms engaged in boat building show their annual sales value as reproduced in the table below :-

Annual sales in Rs.	No. of Firms	Name of Firms
14,00,0000	1	Khalil(Pvt) Ltd. Karachi
80,0000	1	Khuda Bukhsh, Korangi
80,0000	1	Rahim Bukhsh, Korangi
60,0000	1	Haji Mohd. Suleman Fisheries
70,0000	1	Atta Mohammad, Fisheries
16,9000,000	5	Total

Employees :

The boat building firms have a relatively low requirement of manpower, and those who are needed in this industry are mostly the skilled workers. The table below shows the employment position of the firms :

Number of Employees	Number of Firms
6	2
7	1
8	1
30	1

C O N C L U S I O N

A hitherto unexplored field concerning the "unorganised" wood using industry has been partially explored for the first time. The bits and pieces of information gathered with regard to truck/bus/trolley/boat industry in the eleven cities of Pakistan and fifty five selected manufacturing units have been put together.

The industry surveyed is entirely privately owned. The fifty five manufacturing units have produced in one year 309 truck, 276 bus, 55 minibus, 47 ambulances bodies; 18 trolley and 15 boats. That is an impressive performance which could not have been possible without the use of 42526 cft. of wood.

The total sale value, for one year, of these fifty five firms is Rs.52,319,000/- which is indicative of the economic role they play. They employ 414 skilled men.

This study has highlighted those aspects of the industry that fell within the scope of the questionnaire provided by the sponsors which, give rise to many more pertinent questions to be answered, yet more aspects to be covered.

MSJ Research Institute Karachi had the honour to accomplish this work within the specified time and express grateful thanks to Winrock International/USAID for their trust and confidence placed in this Institute.

Table - 1

Distribution of Sample

C i t y	List of Total Mfg.	Total Sample of Mfg.	% By Total Listing	% By Total Sample of Mfg.
Peshawar	38	10	3.36	18
Rannu	15	7	2.35	13
D.I. Khan	13	6	2.02	11
Lahore	75	5	1.68	9
Chiniot	57	5	1.68	9
Rawalpindi	45	5	1.68	9
Hyderabad	6	5	1.68	9
Karachi	16 [*]	5	1.68	9
	24 ^{**}	5	1.68	9
Sukkur	8	2	0.67	3
	297	55		100

* Truck/Bus

** Boat

Table - 2

Year-Wise Establishment of Manufacturers

Y e a r		Number of Firms	Percent
Before	1950	1	2
	1960	2	4
	1970	10	18
	1980	13	24
	1990	29	53
Total		55	100

Q.2. When the firm was establishment ?

Table - 3

Stage of Processing

Stage of Processing	Number of Firms
Harvesting	-
Transporting	-
Debarking	-
Sawing/Slicing	7
Fabricating	51
Finishing	47
On Contract	21
Total	126

Table - 4

Equipments in Use

Type of Equipment	Number of Firms	Percent
Vertical Band Saw	10	18
Horizontal Band Saw	5	9
Press	19	35
Moulder	3	7
Drill	37	67
Jointer	2	4
Welding Machine	37	67
Roller	3	5
Cutter (Plastic)	16	29

Q.4 How many equipments of each type are used in your enterprise ?

Table 4-A

Names of the Firms which have "More than one Equipment"

Names And Addresses	Equipment	Size	No. of Equipment
Sajid Bus Body Maker, Faisalabad Road, Chiniot	Plastic Cutter	Not mentioned	3
Haji Sattar Bus/Truck Body Maker Lahore Road, Chiniot	Plastic Cutter	"	2
Hashmi Truck Body Maker, Sargodha Road, Chiniot	Plastic Cutter	"	2
Mohammad Latif, Kohat Road, Peshawar	Planer	9"	5
Mohammad Latif, Kohat Road, Peshawar	Planer	6"	2
" " "	Hand Saw	3"	4
Gul Zaman, Kohat Road, Peshawar	Hand Saw	3"	4
" " "	Planer	9"	3
Babu, Kohat Road, Peshawar	Planer	2"	4
Abdul Rehman, Kohat Road, Peshawar	Planer	9"	3
" " "	Hand Saw	3"	3
Ghulam Nabi, Kohat Road, Peshawar	Planer	9"	3
Meer Akbar, Kohat Road, Peshawar	Hand Saw	2/3"	8
" " "	Planer	9"	4
" " "	Planer	6"	4
Zairat Gul, Kohat Road, Peshawar	Hand Saw	3"	4
" " "	Planer	3"	6
Gul Rehman, Kohat Road, Peshawar	Hand Saw	3"	2
Yaqoob Baba, Kohat Road, Peshawar	Planer	9"	3
" " "	Hand Saw	2/3"	4

Mr. Sher Zaman, Kohat Road Peshawar	Hand Saw	3"	4
" " "	Planer	9"	3
Haji Mir Nawaz, Bannu	Planer	Not men- tioned	2
" " "	Plastic Cutter	"	5
Rahim Body Makers, Bannu	Planer	"	2
" " "	Drill Machine	"	2
Chiniot Bus, Truck Body, D.I.Khan	Plastic Cutter	"	2
Ali Nawaz Shah Nawaz Railway, Rawalpindi	Plastic Cutter	"	2
Bright Bus Body, Band Road, Lahore	Plastic Cutter	"	2
Data Hajwairi Bus Body, Band Road, Lahore	Hand Saw	"	2
New Khan (Sangam Bus Body) Band Road, Lahore	Hand Saw	1"	2
Hakimullah & Bros., Karachi	Circular Saw		3
" " "	Jointer Planer	15"	2
" " "	Hand Drill Machine	-	10
" " "	Boring Machine	-	4
" " "	Press	-	3
Choudhry Body Maker, Lasbela, Karachi.	Planer	-	2
" " "	Drill	-	2
Awan Bus & Truck, National Highway, Karachi	Electric Hand Drill	-	2
Karachi (Firm name is not disclosed in questionnaire)	Electric Hand Drill	-	3
" " "	Elec. Planer	-	4
Karachi (Firm name is not disclosed in questionnaire)	Circular Saw	-	2
" " "	Elec. Hand Saw	-	2
" " "	Elec. Hand Planer	-	2

Khalil (Pvt) Ltd., Fisheries Karachi	Boring Machine	-	2
" " "	Elec. Hand Drill	-	6
Sindh Body Maker, Hala Naka Hyderabad.	Elec. Hand Drill	-	2
Munna Body Maker, Kacha Kila Hyderabad	Elec. Hand Drill	-	2
Mobashir Body Maker, Kacha Kila, Hyderabad.	Elec. Hand Drill	-	2
" " "	Elec. Hand Drill	-	2
Zahid Enterprises, Hala Naka, Hyderabad	Elec. Hand Drill	-	2
Shahid & Sons, Hala Naka, Hyderabad	Elec. Hand Drill	-	2
Sharif Body Maker, Sukkur.	Elec. Hand Drill	-	2
" " "	Elec. Hand Drill	-	2
Shahid Body Maker, Sukkur	Elec. Hand Drill	-	2

Table 4-B

Size of Equipments

Type of Equipments	Size of Equipments	Number of Manufacturers
Vertical Band Saw	36"	1
Planer	9"	7
Planer	3"	3
Planer	4"	2
Planer	2"	6
Drill	2"	6
Jointer *	5"	1
Jointer	15"	1
Electric Blade Saw	6"	1
Electric Blade Saw	12"	3
Welding Machine	-	1
Horizontal Band Saw	42"	1
Horizontal Band Saw	8"	1
Horizontal Band Saw	6"	1

* Most of the manufacturer are not mentioned their equipment size.

Table - 5

Primary Products

Type of Products	1987	Number of Manufacturers	1988	Number of Manufacturer	1989	Number of Manufacturers
Bus	248	23	272	23	276	23
Truck	239	35	298	39	309	40
Trolley	17	5	25	6	18	6
Boat	10	3	16	5	15	5
Ambulance	50	1	47	1	47	1
(Mini Bus) Mazda (Wagon)	53	4	53	5	55	5
Repairing Work	30	9	39	10	44	10

Table 5-A

Average Primary Products

C i t y	Bus	Truck	Mini Bus	Trolley	Boat	Ambulance
Karachi	68	66	48	-	13	48
Hyderabad	-	12	-	-	-	-
Sukkur	6	4	-	-	-	-
Lahore	103	-	5	-	-	-
Chiniot	11	7	-	-	-	-
Rawalpindi	-	12	-	-	-	-
Peshawar	-	59	-	-	-	-
D.I. Khan	28	31	-	15	-	-
Bannu	46	90	-	5	-	-

Table 5-B
Primary Products by Year And City

Cities	B u s			T r u c k			Miscellaneous		
	1987	1988	1989	1987	1988	1989	1987	1988	1989
Karachi	62 (2)	69 (2)	73 (2)	55 (4)	68 (5)	75 (5)	10 (3) Ka	16 (5) Ka	15 (5) Ka
Sukkur	5 (2)	5 (2)	5 (2)	4 (2)	7 (2)	6 (2)	47 (4) Kc	49 (4) Kc	49 (4) Kc
Hyderabad	-	-	-	9 (4)	13 (5)	16 (5)	50 (1) Kb	47 (1) Kb	45 (1) Kb
Lahore	110 (5)	102 (5)	97 (5)	-	-	-	6 (1) M	4 (1) M	5 (1) M
Chiniot	11 (3)	10 (3)	14 (3)	7 (3)	8 (3)	7 (3)	-	-	-
Rawalpindi	-	-	-	5 (2)	12 (4)	21 (5)	-	-	-
D.I. Khan	22 (5)	31 (5)	31 (5)	32 (5)	40 (5)	24 (5)	13 (4)	20 (5)	12 (5)
Bamu	38 (6)	55 (6)	56 (6)	70 (6)	92 (6)	109 (6)	4 (1)	5 (1)	6 (1)
Peshawar	-	-	-	57 (10)	68 (10)	54 (10)	-	-	-

Ka = Boats, Kb = Ambulance, Kc & M = Mini Bus, T = Trolley
Ka, Kb & Kc denotes Karachi city.

Table - 6

Pattern of Capacity Utilization

Capacity Utilization	Number of Firms	Percentage
Less than 36%	6	11
36% - 40%	14	25
41% - 50%	14	25
51% - 60%	8	14
61% - 70%	6	11
71% - 80%	4	7
81% & above	3	6

Q. What percent of capacity are you operating at ?

Table - 7

Requirement of Wood

Units in Cft.*

Species	L O G W O O D		
	1987	1988	1989
Shisham	5929 (12)	6778 (12)	7318 (12)
Partal	815 (7)	1319 (7)	1706 (7)
Deodar	200 (1)	105 (1)	200 (1)
Kikar	200 (2)	400 (2)	398 (2)
Total	7144 (22)	8602 (22)	9622 (22)

* Boats not included.

Figures in parenthesis represents the number of firms.

Table 7-A

Requirement of Wood

Units In Cft.*

Species	B R A N C H		
	1987	1988	1989
Shisham	1000 (4)	1000 (4)	700 (4)
Partal	291 (3)	312 (3)	298 (3)
Kikar	350 (2)	375 (2)	375 (2)
Chilghoza	100 (1)	100 (1)	100 (1)
Total	1741 (10)	1787 (10)	1473 (10)

* Boats not included

Figures in parenthesis represents the number of firms.

Table 7-B

Requirement of Wood

Units in Cft.*

Species	L U M B E R		
	1987	1988	1989
Shisham	13470 (15)	15155 (17)	14700 (17)
Partal	5030 (7)	5770 (8)	5700 (8)
Kikar	530 (2)	740 (2)	450 (2)
Cheer	3000 (1)	2300 (1)	3300 (1)
Total	22030 (25)	23965 (28)	24150 (28)

* Boats not included

Figures in parenthesis represents the number of firms.

Table 7-C

Requirement of Wood

Units in Cft.*

Species	S C A N T S		
	1987	1988	1989
Shisham	20 (1)	50 (2)	125 (3)
Partal	1163 (7)	1628 (8)	1762 (9)
Total	1183 (8)	1678 (10)	1887 (12)

* Boats not included

Figures in parenthesis represents the number of firms.

Table - 8

Channels of Procurement for Wood

Channel Used	Number of Firms	Percent
Truck	3	6
Animal Cart	31	56
Truck and Animal Cart	16	29
Truck, Animal Cart & Others	5	9
Total	55	100

Q. How wood is delivered to your factory ?

Table - 9

Source of Wood Procurement

Wood Purchased From	Number of Firms	Percent
Tree Grower	3	6
Middle Man	47	85
Tree Grower/ Middle Man	5	9
-	-	-
Total	55	100

Q. From whom is the wood purchased ?

Table - 10

Pattern of Procurement Cost

Price This Year	Number of Firms	Percent
Stayed same	12	22
Increased up to 10%	6	11
" 11% - 15%	12	22
" 16% - 20%	13	24
" 21% - 25%	6	11
" 26% - Above	6	11

Q. Compared to last year, what has been the trend of average/unit wood cost this year ?

Table - 11

Wood Availability Problems

Wood Availability Problems	Number of Manufacturers	Percent
Quality of wood does not match the price	42	76
Tax Problem	5	9
Due to restriction by Forest Department on cutting of Trees, Prices goes high	3	6
No Problem	5	9
Total	55	100

Table - 12

Significant Other Materials

Materials	Quantity	Number of Manufacturers
Iron	9434 Maunds	30
Plastic	9113 Sheets *	25
Copper	2000 Maunds	5
Foam	7395 Sheets *	13

* One Sheet = 8' x 4' = 32 sq.ft.

Table 12-A

Volume and Price of Wood Waste

Volume	Gross Volume of Wood Waste in Kg.	Total Sale @ Rs.20 per 40 kg.
Below 1000	11162 (21)	12827 (27)
1001 - 2000	26377 (19)	13083 (9)
2001 - 3000	15021 (6)	10980 (4)
3001 - 4000	6811 (2)	-
4001 - 5000	18196 (4)	4422 (1)
More than 5000	102348 (3)	48646 (1)
Total	179915 (55)	89958 (42)*

* Thirteen firms do not sale their wood waste.

Figures in parenthesis represents the number of firms.

Table 12-B

Current Wood Consumption

Volume of Wood Consumption in Cft.	Number of Firms	Percent	Gross Consumption in Cft.
Below 100	9	16.36	635
101 - 500	19	34.54	5366
501 - 1000	19	34.54	14025
1001 - 2000	6	10.90	8350
2001 - 3000	-	-	-
3001 - 4000	1	1.81	3150
4001 - 5000	-	-	-
More than 5000	1	1.81	11000
Total	55	100	42526

Table 12-C

Wood Consumption By Grade and Species

Species	Grade	Number of Firms
Shisham	A	9
Shisham	B	40
Deodar	B	1
Partal	A	1
Partal	B	4
Total	-	55

Table - 13

Distribution of Cost of Production

Cost of Wood As Percentage of Total Cost	Number of Firms
15 %	6
17 %	27
20 %	22
Total	55

Q.17. What is distribution of your cost of Production ?

Table 13-A

Distribution of Cost of Production

Number of Firms	Cost of Wood As Percentage of Total Cost
17	15 %
9	20 %
13	25 %
16	30 %
55	Total

Table 13-B

Distribution of Cost of Production

Operating Expenses As % of Total Cost	Number of Firms
10 %	18
15 %	19
20 %	18
Total	55

Table - 14

Gross Annual Value of Sales

A m o u n t	Number of Manu- facturers	Sale in Rs.
Less than 200,000	8	1178,000
Less than 300,000	10	2220,000
Less than 400,000	8	2636,000
Less than 500,000	2	890,000
Less than 600,000	4	2050,000
Less than 800,000	8	5120,000
Less than 1000,000	3	2400,000
Less than 2000,000	6	8925,000
Less than 3000,000	2	5400,000
Less than 4000,000	2	6000,000
14000,000 *	1	14000,000
15000,000 **	1	15000,000
Total	55	65819,000

* Boat maker Khalil(Pvt) Ltd., Fisheries Karachi.

** Hakimullah & Bros. Bus Body Builder, Nishtar Road, Karachi.

Table - 15

Total Number of Employees

Employees	Number of Manufacturers	Percent
1 to 5	34	60
6 to 10	15	27
11 to 15	3	5
16 & Above	3	5
Total	55	100

Hakimullah have 100 employees in his manufacture.

TRUCK & BUS BODY, TRACTOR TROLLEY AND
BOAT BUILDING --- LAHORE

1. Master Truck/Bus Body builders, Bund Road
2. Ittehad Truck/Bus body builders, Bund Road
3. Butt Bus body builders, Bund Road
4. Universal body builders, Bund Road
5. New Fancy Bus body builders, Bund Road
6. New Sabri Bus body builders, Bund Road
7. Mughal Bus body builders, Bund Road
8. Super Muslim body builders, Bund Road
9. Karwan Bus body builders, Bund Road
10. Al-Sadiq Truck/Bus body builders, Bund Road
11. JI JI Truck/Bus body builders, Bund Road
12. Data Hijwairi Bus/Mazda body builders, Bund Road
13. New Star Bus body Builders, Bund Road
14. Al-Sakoon Bus body builder, Bund Road
15. Super Modern Bus body builders, Bund Road
16. Chenab Body builders, Bund Road
17. Sarwar Brothers Bus/Wagon body builders, Bund Road
18. Sitara Bus body builders, Bund Road
19. Sartaj Bus body builders, Bund Road
20. Union Body makers, Bund Road
21. Moon Light body makers, Bund Road
22. Bismillah body builders, Bund Road
23. New Faisal body makers, Bund Road
24. New Eagle body builders, Bund Road
25. O K body makers, Bund Road
26. Adil body makers, Bund Road
27. New Khan Bus body builders, Bund Road
28. Liaquat Truck body maker, Badami Bagh
29. Rashid Truck body makers, Badami Bagh
30. Iqbal Truck body makers, Badami Bagh

31. Bright Bus body builders, Bund Road
32. Alcom Engineering Industries, G.T. Road
33. Asian Bus Body Building Workshop, Ferozepur Road
34. Akram Bus Makers, Anarkali
35. Al-Hameed Body Works, Bund Road
36. Bhaya Bus Body Builder, Bund Road
37. Bus Body Building Workshop, Gulberg-III
38. Crown Bus Body Builders, Bund Road
39. Diamond Bus Body Builders, Bund Road
40. Fazal Mahmood and Sons, Ferozepur Road
41. Ghulam Sarwar Bus Body Builders, Bund Road
42. Golden Star Bus Body Builders, Bund Road
43. Gemco Bus Body Builders, Ferozepur Road
44. G & G Bus Body Builders, Bund Road
45. Ittefaq Modern Body Works, Bund Road
46. Irfan Brothers Bus Body Makers, Bund Road
47. International Bus Body Builders, Ferozepur Road
48. Millat Brothers Body Builders, Shahrah-e-Quaid-e-Azam
49. Mian Motors, Lawrence Road
50. Mian Brothers Limited, The Mall
51. Muslim Bus Body Builders, Bund Road
52. New Ittefaq Bus Body Builders, Bund Road
53. New Punjab Bus Body Works, Bund Road
54. Nazir Bus Body Building Workshop, Behind Lahore Fort
55. New Sartaj Bus Body Builders, Bund Road
56. New Lahore Bus Body Builders, Bund Road
57. New Crown Bus Body Builders, Bund Road
58. New Faisal Bus Body Builders, Bund Road
59. New Delight Bus Body Builders, Bund Road
60. Popular Delux Bus Body Works, Ferozepur Road
61. Pakistan Modern Body Builders, Bund Road
62. Punjab Road Transport Corporation, Garden Town
63. Rafiq Body Works, Bund Road
64. Punjab Road Transport Body Building Workshop, Gulberg-III

65. Rajput Bus Body Builders, Bund Road
66. Royal Crown Bus Body Builders, Bund Road
67. Ravi Engineering, Shahdara, G.T. Road
68. Sarwar Bus Body Builders, Bund Road
69. S. Fakhar-ud-Din and Co. Ltd., G.T. Road, Shahdara
70. Sattar Bus Body Builders, Bund Road
71. Sanam Bus Body Builders, Bund Road
72. Samad Bus Body Builders, Bund Road
73. Syed Motors Behind Lahore Fort, Ravi Road
74. Sharif Bus Body Builders, Bund Road.
75. Yaqoob Bus Body Builders, Bund Road

TRUCK & BUS BODY, TRACTOR TROLLEY
AND BOAT BUILDING --- RAWALPINDI
=====

1. Amir Khan, Railway Workshop Road
2. Syed Asad, Railway Workshop Road
3. Rashid Hussain, Railway Workshop Road
4. Chaudhry Khan Mohammad, Railway Workshop Road
5. Arshad Khan, Railway Workshop Road
6. Jamal Khan, Railway Workshop Road
7. Zari Malik, Railway Workshop Road
8. Mir Jamal, Railway Workshop Road
9. Sadaqat Ali, Railway Workshop Road
10. Ali Nawaz, Railway Workshop Road
11. Hameed Khan, Railway Workshop Road
12. Sajid Malik, Railway Workshop Road
13. Amin-ur-Rehman, Railway Workshop Road
14. Tahir Zaman Khan, Railway Workshop Road
15. Sabir Ali Malik, Railway Workshop Road
16. Wajid Ali Malik, Railway Workshop Road
17. Javed Tahir Zaman, Railway Workshop Road
18. Lahoria, Railway Workshop Road
19. Khalid, Railway Workshop Road
20. Haq Nawaz Khan, Railway Workshop Road
21. Ray Munir, Railway Workshop Road
22. Boota, Railway Workshop Road
23. Chinioti, Railway Workshop Road
24. Farooq Jumal, Railway Workshop Road
25. Badishah, Railway Workshop Road
26. Bobby, Railway Workshop Road
27. Meetha Khan, Railway Workshop Road
28. Hameed Baba Truck Maker, Railway Workshop Road
29. Ashiq Hussain Truck Maker, Railway Workshop Road
30. Malik Jabbar, Railway Workshop Road

31. Al-Ghausia Bus Body Makers, Pir Wadhai Road
32. Abdullah Truck Body Makers, Babu Lal Hussain Road
33. Bashir Hussain Bus Body Makers, Railway Workshop Road
34. Chiniot Bus Body Makers, Pir Wadhai Road
35. Delux Chiniot Bus Body Makers, Main Road, Pir Wadhai
36. Daulat Body Maker, Railway Workshop Road
37. Haji Mohammad Iqbal, Truck Body Makers,
38. Ismail & Co. Ltd., Kashmir Road
39. Mahboob Hussain Truck Body Makers, Railway Workshop Road
40. Mian Gul Truck Body Makers, Railway Workshop Road
41. Malik Body Makers, Railway Workshop Road
42. Miskeen Body Makers, Railway Workshop Road
43. Roshan Din Body Makers, Railway Workshop Road
44. Sharif Truck Body Builder, Babu Lal Hussain Road
45. Sani Body Makers, Haji Road

TRUCK & BUS BODY, TRACTOR TROLLEY
AND BOAT BUILDING --- CHINIOT
=====

1. Sajid Bus Body Maker, Faisalabad Road
2. Hashmi Truck body Maker, Sargodha Road
3. Haji Shamma Bus Body Maker, Faisalabad Road
4. Haji Sattar Bus & Truck Body Maker, Lahore Road
5. Ibrahim Truck Body Maker, Sargodha Road
6. A.H. Bashir and Company
7. Azim-ud-Din Body Building
8. Alvi Body Building
9. Al-Faisal Bus Body Building Works
10. Asghar Bus Body Building Works
11. Awami Bus Body Building
12. Bashir and Company
13. Bilal Bus Body Manufacturing and Repairing Workshop
14. Crescent Bus Body Repairing Workshop
15. Crown Bus Body Repairing Workshop
16. Chiniot Bus Body Building Works
17. Ch. Bus Body Building
18. Crescent Bus Body, Sargodha Road
19. Decent Bus Body Building
20. Ever Green Bus Body Repairing
21. Govt. Transport and Service, Jhang Sadar
22. Gulshan Bus Body Workshop
23. Hamid Bus Body Builders
24. Habib Bus Body Builders
25. Ittefaq Bus Body Building
26. Imperial Bus Body Repairing Workshop
27. Kohinoor Bus Body Manufacturing
28. Khan Bus Body Repairing Workshop
29. Moonlight Bus Body Manufacturing and Repairing Workshop
30. Malik Aftab Bus Body Building
31. Malik Brothers Bus Body Manufacturing

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32. Muqaddas Bus Body Repairing Workshop
33. Millat Bus Body Manufacturing and Repairing Workshop
34. Munshi Khan and Company, Sargodha Road
35. New Shalimar Bus Body Repairing Workshop
36. New United Bus Bodies Repairing Workshop
37. New Universal Bus Body Manufacturing and Repairing Workshop
38. National Bus Body Building
39. Pakistan Bus Body Manufacturing and Repairing Workshop
40. Prince Bus Body Repairing Workshop
41. Popular Bus Body Building
42. Punjab Bus Body Building
43. Popular Bus Body Building, Sargodha Road
44. Rehman Bus Body Manufacturing and Repairing Workshop
45. Rehbar Bus Body Manufacturing and Repairing Workshop
46. Rafiq and Brothers, Faisalabad Road
47. Sadaqat Bus Body Repairing Workshop
48. Sarhad Bus Body
49. Shahid Brothers Bus Body Manufacturing and Repairing Workshop
50. Shaheen Bus Body Builders
51. Shama Bus Body Manufacturing and Repairing Workshop
52. Saddiq Bus Body Building
53. Super Golden Bus Body Repairing Workshop
54. Shah Jahan Bus Body Repairing Workshop
55. Welcome Bus Body Manufacturing and Repairing Workshop
56. Zafar Bus Body Repairing Workshop
57. Zawar and Company Bus Body Building, Shahid Road

TRUCK & BUS BODY, TRACTOR TROLLEY
AND BOAT BUILDING --- PESHAWAR

1. Mr. Ghulam Nabi, Kohat Road
2. Mr. Sher Zaman, Kohat Road
3. Yaqoob Baba, Kohat Road
4. Gul Zaman, Kohat Road
5. Abdur Rehman, Kohat Road
6. Gul Rehman, Kohat Road
7. Zairat Gul, Kohat Road
8. Babu, Kohat Road
9. Mohammad Latif, Kohat Road
10. Meer Akbar, Kohat Road
11. Ismail, Kohat Road
12. Zareef, Kohat Road
13. Khan Mohammad, Kohat Road
14. Noor Mohammad, Kohat Road
15. Farman Ali, Kohat Road
16. Dalawar, Kohat Road
17. Abdul Qahar, Kohat Road
18. Taj Mohammad, Kohat Road
19. Mohammad Razziq, Kohat Road
20. Mahing, Kohat Road
21. Inayatullah, Kohat Road
22. Sultan Khan, Kohat Road
23. Zamseer, Kohat Road
24. Khair Rehman, Kohat Road
25. Askar Shah, Shobah
26. Khadim, Shobah
27. A. Qayyum, Shobah
28. Maqab Ali, Shobah
29. Hasham Ali, Shobah
30. Saeed-ur-Rehman, Shobah

31. Saleem Shah, Shobah
32. Azeem, Shobah
33. Hussain Shah, Shobah
34. Hazrat Gul, Shobah
35. Ihsanullah, Shobah
36. Haji Bashir, Haji Camp
37. M/s Hussain Body Builders, Haji Camp
38. Mohammad Ibrahim, Haji Camp

TRUCK & BUS BODY, TRACTOR TROLLEY
AND BOAT BUILDING ---- BANNU

- =====
1. Rashid Body Maker
 2. Rauf Body Maker
 3. Nasib Ahmad Body Maker
 4. Sher Ali Body Maker
 5. Dilfaraz & Anayatullah Body Maker
 6. Mir Ahmad Body Maker
 7. S. H. Itihad Body Maker
 8. Rahim Body Maker
 9. Haji Mir Nawaz Body Maker
 10. Haji Mir Daraz Body Maker
 11. Dilfaraz Body Maker
 12. Bilquis Body Maker
 13. Haji Mohammad Nawaz Body Maker
 14. Jamil Body Maker
 15. Haji Mastanullah Body Maker

TRUCK & BUS BODY, TRACTOR TROLLEY
AND PONT BUILDING — D.I. KHAN
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1. Mansha Body Maker
2. Banudi Body Maker
3. Farooq Body Maker
4. Allah Nawaz Body Maker
5. Hafiz Body Maker
6. Mohammad Bakhsh Body Maker
7. Aziz Body Maker
8. Chaniute Bus/Truck Body Building Workshop
9. Vala Uhan Bus/Truck Body Building Workshop
10. Afzal Bus/Truck Body Building Workshop
11. Umer Khan Bus Body Maker
12. Umer Bakhsh Body Maker
13. Marqayar Bus Body Maker

TRUCK & BUS BODY, TRACTOR TROLLEY AND
BOAT BUILDING ——— KARACHI

1. Awan Bus & Truck body maker, National Highway, Malir
2. Choudhry Body maker, Lasbela
3. Sindh body maker, Drigh Colony
4. O.K. Body maker, S.I.T.E.
5. United Body maker, S.I.T.E.
6. Universal body maker, S.I.T.E.
7. Haroon Republic Motors, S.I.T.E.
8. Trolley Development Corporation, S.I.T.E.
9. Hakimullah & Bros. Bus body builder, Nishtar Road
10. Saleem Bros. body maker, Nishtar Road
11. Altaf Bros. body maker, Nishtar Road
12. Shoukat body maker, Nishtar Road
13. Arif body maker, Nishtar Road
14. Barkat body maker, Nishtar Road
15. Basheer body builder, Nishtar Road
16. Shakeel body maker, Nishtar Road

BOAT MAKERS :

1. Rahim Bux, Korangi
2. Khuda Bux, Korangi
3. Ali Bux, Korangi
4. Ghulam Jaffar, Korangi
5. Mohammad Sachal, Korangi
6. Mohammad Ali, Korangi
7. Abdullah, Korangi
8. Mohammad Suleman, Korangi
9. Mohammad Juma, Korangi
10. Dariya Khan, Korangi
11. Shair Mohammad, Korangi
12. Haji Mohammad Suleman Boat Maker, Fisheries
13. Western Marine Limited, Fisheries

14.	Khalil (Pvt) Limited,	Fisheries
15.	Manzar Marine Product	"
16.	Mohammad Shahid	"
17.	Shah Mohammad	"
18.	Atta Mohammad	"
19.	Mohammad Shareef	"
20.	Shah Mohammad	"
21.	Sahib Dino	"
22.	Shah Nawaz	"
23.	Mohammad Raunzan	"
24.	Allah Dino	"

TRUCK & BUS BODY, TRACTOR TROLLEY
AND BOAT BUILDING — HYDERABAD
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1. Zahid Enterprises, Hala Naka
2. Shahid & Sons, Hala Naka
3. Sindh Body Maker, Hala Naka
4. Munna Body Maker, Kacha Kila
5. Mubashir Body Maker, Kacha Kila
6. Sadiq Body Maker, Kacha Kila

TRUCK & BUS BODY, TRACTOR TROLLEY
AND BOAT BUILDING --- SUKKUR
=====

1. Shahid Body Maker
2. Sharif Body Maker
3. Iqbal Body Maker
4. Haji Mustaq Body Maker
5. Basheer Body Maker
6. Shafiq Ahmed Body Maker
7. Mughal Bus & Truck Body Maker
8. Baig Bus Body Maker

BOAT MAKER

1. Suleman Boat Maker
2. Mantthar Boat Maker
3. Shah Mohammad Boat Maker
4. Atta Mohammad Boat Maker
5. Ghulam Hussain Boat Maker
6. Sharif Boat Maker
7. Mehmood Boat Maker
8. Ali Nawaz Boat Maker
9. Rasool Bux Boat Maker
10. Mohammad Ismail Boat Maker
11. Mohammad Bux Boat Maker