Research Paper Managment

Comprehensive Analytical Study on Land Transportation in Yemen

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ABSTRACT

The current status of land transportation is degradable which hampered flow of goods and services and didn't make the economic and social utility, in this context, purpose of this paper to ascertain the exact inhibiting factors which led to current situation through comprehensive analytical study and come up with with necessary treatments which may help for upgrading system in Yemen.

•Design and methodology:

The research plan focused on identification the current status of land transportation and its infrastructure in yemen and its impacts on movement people,goods and services.

This paper illustrated significance of sound transportation planningand policy for achieving economic and social utility.

On the other hand, research plan introduces real treatments for ensuring effective land transport system.

•Findings:

This paper presents results of degradable land transportation and road networks in yemen, as well as results related to in efficient transportation planning and management.

Keywords : Land transportation system, Road networks, Yemen, Transport planning, policy and management.

2. Research Methodology:

primary methods of data collection were used in the present research for collection of information and data.

The questionnaire method was used to collect the primary data from the officers and technical experts while interview technique was used to review the opinion of the managerial personnel.

a)Research Methodology:

1. Type of Research : analytical and explanatory
2. Research Instruments:

a). Questionnaires.

b).Interview Method.

b) Data Analysis

1. Coding
2. Statistical Analysis Techniques & Statistical Software

o Frequency Distribution

o Measures of Central Tendency

o Measures of Variability.

3.Hypothesis:

- Land transportation and road networks are degradable in yemen, this situation hampered effective flow of goods, services and people.
- In efficiency of transport policy, planning and management created many drawbacks of system which led to poor performance aswhole.

4. Sample of the study and data collection:

- **Sample and sample size of the study:**

Sample of this study has been selected from 3 corporations related to land transportation and road networks in yemen, sample of this study confined to officers and managerial personnel of these corporation, sample size of this research was 20 for each corporation and total sample size was 60 as follows:

Table No.(1) shows sample and sample size:

Sample	Sample Size
General authority of land transportation affairs regulation.(officers and technical, managerial personnel)	20
General corporation f networks and bridges. (officers and technical, managerial personnel)	20
Roads maintenance fund.(officers and technical, managerial personnel)	20

- **Data collection:**

The reliable and good quality of data is very necessary for accomplishing this study, therefore, every precaution and accuracy were adopted to obtain relevant information precisely.

Observation was registered as well as interviews were conducted with officers and managerial personnel closely to land transportation and road networks for obtaining the required information and statistical data.

A total of 60 officers ,managers and technicians closely to transportation field were participating with this study through their responses about the questionnaire and survey conducted by the researcher.

5. Statistical results and their analysis:

The researcher has made descriptive analysis of 60 respondents and 40 questions, these questions included obstacles and prospects of land transport system in Yemen, initially theses questions aimed to confirm reliability of determined hypothesis.

The Ratio of responses may be shown table No.(2) as follows:-

No. of Q	Questionnaire	Fully Agree	Agree	Un-certain	Don't Agree	Totally not agree
1	Performance of land transportation system unsatisfactory	53.33%	36.67%	8.33%	1.67%	0.00
2	There is no effective public transportation system in yemen	70.00%	16.67%	11.67%	1.67%	0.00
3	There is no effective private transportation system in yemen	38.33%	41.67%	6.67%	13.33%	0.00
4	There is difficulty for moving goods ,services and people	36.67%	48.33%	10.00%	5.00%	0.00
5	Modes often exposed for accidents, congestion and goods exposed for damage during transit	.3333%	41.67%	16.67%	1.67%	0.00
6	Accordingly, delivery not in time and cost increased	35.00%	55.00%	8.33%	1.67%	0.00
7	Land transport lacks main services such as :departure and reception stations, organized parking ,refreshment stations and maintenance centers…etc.	25.00%	66.67%	3.33%	5.00%	0.00
8	Land transport currently represents logistic challenge	18.33%	61.67%	8.33%	11.67%	0.00
9	Poor roads created scarcity some goods in some areas	63.33%	30.00%	6.67%	0.00	0.00
10	Bad connection of roads to rural areas generated high transport cost .	60.00%	28.33%	5.00%	6.67%	0.00
11	High transport costs led to high prices of goods.	13.33%	68.33%	11.67%	6.67%	0.00
12	Absence of main services in rural areas such as :hospitals, schools due to poor roads.	35.00%	58.33%	3.33%	3.33%	0.00
13	So, expected social and economic utility roads missed	71.67%	16.67%	3.33%	8.33%	0.00
14	Rugged natural conditions of yemen hampered connection roads to rural areas.	85.00%	11.67%	0.00%	3.33%	0.00
15	Traffic and high axial weights of trucks that exceed roads capacity greatly contributed to deterioration of roads.	6.67%	48.33%	16.67%	28.33%	0.00
16	Road networks lacks modern technologies related to security and traffic regulation aspects.	28.33%	53.33%	8.33%	10.00%	0.00
17	There is no effective roads connects between ports and backward areas.	36.67%	30.00%	21.67%	11.67%	0.00
18	Generally, roads constructed by local entreprenures who are not that much experienced.	75.00%	0.00%	1.67%	23.33%	0.00
19	Roads networks projects lacks of adequate finance.	45.00%	18.33%	11.67%	25.00%	0.00
20	There is no real periodical maintenance of roads.	16.67%	35.00%	3.33%	45.00%	0.00
21	There is no clear organizational structure of land transportation, that created dysfunction.	73.33%	18.33%	8.33%	0.00%	0.00
22	Mismanagement at various land transport corporations declining operational capacity.	50.00%	35.00%	8.33%	0.00%	0.00
23	Poor logistic management contributed negatively increasing time, cost and reducing performance.	53.33%	28.33%	5.00%	13.33%	0.00
24	Rehabilitation and training programs are not based on real plans for making use of its out puts.	21.67%	55.00%	10.00%	13.33%	0.00
25	Incremental accidents and congestion on roads due to in effective transport management.	46.67%	33.33%	5.00%	15.00%	0.00
26	Transportation policies wasn't carried out building on priority criteria.	35.00%	48.33%	0.00%	16.67%	0.00
27	There is no effective logistic policy for upgrading land transportation.	58.33%	20.00%	15.00%	6.67%	0.00
28	Government policy to minimize transport cost has been failed.	68.33%	16.67%	13.33%	1.67%	0.00
29	Monopolitical aspects due to control some of illegal entities on land transport regulation.	48.33%	35.00%	1.67%	15.00%	0.00
30	Government failed to enforce specific costs related to land transport.	33.33%	55.00%	3.33%	8.33%	0.00
31	Government didn't invest sufficiently with regard to land transportation.	68.33%	16.67%	5.00%	10.00%	0.00
32	There is urgent need for changing transportation policy to match with current status of transport.	65.00%	25.00%	3.33%	6.67%	0.00
33	Five years plans related to logistic management has nt been achieved.	38.33%	26.67%	21.67%	13.33%	0.00
34	Provisions for transportation infrastructure wasn't quite enough in plans.	28.33%	48.33%	13.33%	10.00%	0.00
35	There are restrictions led to non implementation most of plans.	85.00%	8.33%	6.67%	0.00%	0.00
36	Delay of implementation most of transport projects due to finance dilemma	18.33%	70.00%	3.33%	8.33%	0.00
37	Feasibility and viability of projects, often not in to consideration during planning.	31.67%	48.33%	3.33%	16.67%	0.00
38	Delay of approval of transportation laws attributed to long procedures.	71.67%	21.67%	6.67%	0.00%	0.00
39	Laws and regulations of participating private sector not activated.	46.67%	35.00%	1.67%	16.67%	0.00
40	There is no real plans for periodical maintenance of road networks,	81.67%	11.67%	0.00%	6.67%	0.00

Calculation of the weighted mean of the sample response to the questions contained (likert scale) to measure tendency of perspectives of respondents. Mechanism of likert scale) will be illustrated as follows:

- Likert scale:
The degree of responses were (5) options(Totally not agree-Don't agree- Uncertain-Agree-Fully agree,The values may be shown as under:

Table No.(3)

weight	Options
1	Totally not agree
2	Don't agree
3	Un-certain
4	Agree
5	Fully agree

Source:- Likert scale
First ,calculation the arithmetic mean(Weighted Mean),then

We can finding the hypothetical mean as following :

15 +3+4+5 2 + 1

Mean= ----------= ----- = 3 5 5

Table No.(4)

Weighted Mean	Level
From 1.00 to 1.79	Totally not agree
From 1.80 to 2.59	Don't agree
From 2.60 to 3.39	Un-certain
From 3.40 to 4.19	Agree
From 4.20 to 5.00	Fully agree

Source:-Likert scale

If value of Arithmetic Mean higher than Hypothetical Mean of the study this absolutely will support the questions for testing hypothesis favourably as well as will demonstrate reliability of the hypothesis.

On the contrary, if results of the analysis of Arithmetic Mean was less than the Hypothetical Mean of the study, then this will disprove the hypothesis and will not support questions of this hypothesis.

6. Analysis of Hypotheses:
In order to be able to test hypothesis in respect of acceptance and reliability or disproving the hypothesis ,the researcher has prepared 40 questions for testing reliability of hypothesis and assumed two hypothesis to be proved or disproved.

First Hypothesis:
(Land transportation and road networks are degradable in yemen, this situation hampered effective flow of goods, services and people).

Results of study variables:
Table No.(5)

No of Q	Mean	Std. Deviation	Mean Percentage	Level of response
Q 1	4.42	0.71997	88.33%	Fully agree
Q 2	4.55	0.76856	91.00%	Fully agree
Q 3	4.05	0.99873	81.00%	Agree
Q 4	4.17	0.80605	83.33%	Agree
Q 5	4.00	0.92057	80.00%	Agree
Q 6	4.23	0.67313	84.67%	Fully agree
Q 7	4.12	0.69115	82.33%	Agree
Q 8	3.87	0.85304	77.33%	Agree
Q 9	4.57	0.62073	91.33%	Fully agree
Q 10	4.42	0.86928	88.33%	Fully agree
Q 11	3.88	0.71525	77.67%	Agree
Q 12	4.25	0.67961	85.00%	Fully agree
Q 13	4.52	0.91117	90.33%	Fully agree
Q 14	4.78	0.61318	95.67%	Fully agree
Q 15	3.33	0.96843	66.67%	Uncertain
Q 16	4.00	0.88298	80.00%	Agree
Q 17	3.92	1.02992	78.33%	Agree
Q 18	4.27	1.28705	85.33%	Fully agree
Q 19	3.83	1.25099	76.67%	Agree
Q 20	3.23	1.1984	64.67%	Uncertain
Arithmetic mean of hypothesis	4.12		82.40%	Agree

As looking at above table we observe that the level of responses of 9 questions are(Fully agree),9 questions are(Agree), and only 2 questions are (Uncertain). out of 20 questions prepared for testing hypothesis no.1, this confirm acceptance of these questions and increase its reliability for testing hypothesis no.1.

In this context ,,it is clear that Q.no.14 registered the highest value of mean(4.78), with percentage of mean reached (95.67%), and std. deviation (0.61318)

These values indicates that the study sample (Fully agree) that (rugged natural conditions of Yemen hampered connections roads to rural areas).

While Q .NO. 20 registered the lowest value of mean (3.23), with percentage of mean stood (64.67%), and std. deviation (1.1984) this refers that the study sample(uncertain) that (there is no periodical maintenance of roads).

In general, the arithmetic mean of hypothesis no.1 was,(4.12) with percentage of mean (82.40%), this demonstrate that the study sample with certainty (95%) (Agree) this hypothesis which its results shown in above table.

Second Hypothesis:
(Inefficiency of transport policy, planning and management created many drawbacks which led to poor performance as whole).

Results of study variables:
Table No. (6)

No. of q	Mean	Std. Deviation	Mean Percentage	Level of response
Q 21	4.65	0.63313	93.00%	Fully agree
Q 22	4.28	0.88474	85.67%	Fully agree
Q 23	4.22	1.043	84.33%	Fully agree
Q 24	4.12	0.91735	82.33%	Agree
Q 25	4.02	1.05913	80.33%	Agree
Q 26	4.30	1.01667	86.00%	Fully agree
Q 27	4.52	0.96199	90.33%	Fully agree
Q 28	4.17	0.79173	83.33%	Agree
Q 29	4.13	1.04422	82.67%	Agree
Q 30	4.43	0.83294	88.67%	Fully agree
Q 31	4.48	0.9806	89.67%	Fully agree
Q 32	3.90	0.85354	78.00%	Agree

Q 33	3.95	1.06882	79.00%	Agree
Q 34	4.78	0.90993	95.67%	Fully agree
Q 35	3.98	0.55515	79.67%	Agree
Q 36	3.95	0.74769	79.00%	Agree
Q 37	4.65	1.01556	93.00%	Fully agree
Q 38	4.12	0.60576	82.33%	Agree
Q 39	4.68	1.07501	93.67%	Fully agree
Q 40	4.65	0.79173	93.00%	Fully agree
Arithmetic mean of hypothesis	4.30		85.98%	Fully agree

Ascan be seen from above table, it is clear that level response of whole questions are(Fully agree, Agree),11 questions are (Fully agree) and 9 questions are (Agree), this result based on values of likert scale and comparison with arithmetic mean of each question ,obviously that all values of mean related to questions are (from 3.90 up to 4.78),this result support acceptance of questions and confirm reliability of hypothesis No.2

In this regard, question no.34 registered the highest value of mean(4.78),with percentage(95.67%) and std. deviation stood at(0.90993), this is demonstrate that the stud y sample(Fully agree) that(The provisions for transportation infrastructure wasn't quite enough in plans).

While, question no.32 registered the lowest value of mean(3.90), with percentage(78%) and std. deviation stood at(0.83294), this indicate that the study sample (Agree) that (There is urgent need for changing transport policy to be matched with current status of transportation).

Therefore, in general , mean of hypothesis no.2 was(4.30), with percentage (85.98%), this indicate that the study sample with degree of certainty 95% (Fully agree) this hypothesis, this result support this hypothesis and demonstrate its reliability.

7. Findings:

This study came up with some important findings that can be summarized as follows:

- The study demonstrated that the performance of land transportation system in yemen unsatisfactory.
- The study demonstrated that there is no effective public land transportation system in yemen.
- The study demonstrated that there is no effective private land transportation system in yemen.
- The study demonstrated that there is difficulty for moving goods, services and people.
- The study demonstrated that poor road networks created scarcity of some goods in some areas, high transport costs, increasing involved time and high prices.
- The study demonstrated that roads didn't achieve the economic and social utility.
- The study demonstrated that there is mismanagement at various land transport corporation.
- The study demonstrated that there is lack for adopting modern technologies ,so transport management very poor.
- The study demonstrated that poor logistic policy generated poor logistic management.
- The study demonstrated that there is urgent need for changing transport policy to match with current situation of land transport system.
- The study demonstrated that government investment policy in this sector insufficient.
- The study demonstrated that delay implementation of land transport projects due to finance dilemma.
- The study demonstrated that poor planning contributed negatively in degradability of land transportation in yemen.

8. Conclusion and recommendation:

- **Conclusion:**

Effective land transportation and sound infrastructure complement each other for ensuring the efficiency with adopting the modern techniques of transportation. but land transportation in yemen faces serious problems beginning from poor infrastructure, bad transport planning ,absence of transportation laws which regulate this sector, end to non-adopting modern techniques related to improving performance of land transportation ,all that had affected land transportation adversely through congestion traffic accidents, pollution,difficulty flow of goods and services, increasing time and cost of transporting goods ,therefore this paper specified the exact reasons for vulnerability of land transportation system based on analytical study and came up with real solutions for upgrading land transportation and enhance capability entirely for achieving effective transportation system.

Recommendations:

Through this study ,some of recommendations were suggested, these recommendations can be summarized as following:

- Establishing new organizational structure for public land transportation.
- Establishing new corporation concerned with public land transport and support it with main services , new buses and trucks for effective moving of goods and people.
- To overcome monopoly of some illegal entities, the government has to enforce rules related to transportation regulation.
- The government has to apply unified tariff regulates costs of transporting goods and services.
- Activating the rules which facilitate and regulate participating of private sector.
- Improving performance of land transportation depends on effective management.
- Adopting modern technologies in respect of transport management such as :intelligent transport systems(ITSs) and efficient logistic management(LM).
- Feasibility and viability to be kept in to consideration during planning for construction road networks.
- Road networks should achieve the economic and social utility through connecting roads to the need areas building on effective planning.
- Construction of roads must to be entrusted to experienced entrepreneurs.
- Activating of weights law which protect roads from traffic and high axial weights of trucks.
- Activating role of roads maintenance fund.
- The periodical maintenance of roads to reduce quick deterioration of it.
- Changing transportation policy to be compatible with current status of land transportation.
- Government must to invest sufficiently in respect of land transportation and its infrastructure.
- Rehabilitation and training programmes should be based on real planning to get advantages of its outputs.