

Condition assessment of existing regional and rural roads in Albania

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ABSTRACT

The conditions of roads are facing problems for many developed countries. In order to complement poverty reduction strategies and progressing as developed country, regional and rural transport interventions must be an integral part of such development interventions and focus on the mobility and access needs of communities. Substantial gains in accessibility—for more communities, in more regions of our country—are possible if regional and rural transport infrastructure interventions are designed in a least-cost, network-based manner focusing on reducing economic inequality and willing to maintain the service. In view of budget constraints, selecting interventions requires a participatory physical planning process undertaken jointly with concerned local governments and communities, supported and coordinated by regional or central government agencies.

The roads in Albania had been constructed with different standards in different periods and exposed traffic loads which have rapidly increased during last two decades. Despite the fact that existing condition of some roads have been considered by ADF, an attempt was made on this study to draw a general picture of Albanian's Roads. The condition of Albanian Roads was presented in this paper based on visual inspection of 1000 km roads, from different areas that are part of the country, concentrating on their conditions. Study concludes that general physical state of the roads are improved consider five years before, therefore, the service provided by such roads is affecting safety and we identified the opportunity to improve maintenance as the key factor for roads condition. Resources are scarce. In this context, participatory selection procedures and analytical prioritization tools are presented, and examples given, which take into account the social and economic importance of regional and rural transport infrastructure.

Keywords: Infrastructure, Road conditions, Maintenance

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1 BACKGROUND

After 1990s Albania embarked on transition by having an impressive performance. However, it is still a poor country characterized by widespread of poverty, the rate of unemployment and substantial regional and rural disparities.

Poverty is widespread in rural and mountainous areas, around 12 % of the population lives below the poverty line. (ref; World Bank appraisal report 2011)

Despite the fact that DGP is improved in the recent years again the poverty is a problem. Nearly 52% of the Albanian populations live in rural areas. Since 2006 up to now the Albanian Government in collaboration with World Bank and supported by other donors initiated the program of Secondary and Local Reconstruction, which is managed by ADF. Infrastructure is known as the second pillar of the economy in Albania. Although, this program is running still the rural road infrastructure is facing the quality of service. There are 1500 km roads which are finished or on the process to be executed by ADF. Actually are 857km regional and rural roads on the process.

There are 5,000 km local roads managed by Local Government and about 4,400 km regional roads governed by 12 Districts in Albania.

Through examination of road list from Districts and Communes, located in their administrative areas, we come up with the argument for the importance of regional and local road reconstruction to be financed by creating an electronic inventory and prioritization of their investment based on economic, social criteria and maintenance.

As market mechanism to secure law hampers and efficiency of the civil works contract random is used FIDIC contract as market-based.

APPRAISING OF REGIONAL AND RURAL TRANSPORT INFRASTRUCTURE

Regional and Rural transport network is underdeveloped and of poor condition. There were limited access or didn't have motorized access at all. A new approach to rural transport interventions is emerging. It requires a more holistic understanding of the mobility and access needs of the rural communities than has traditionally been the case in rural road sub-sector investments. It is a demand with an emphasis on the needs expressed by affected communities. In this context, rural transport is more broadly seen as an input into successful rural livelihood strategies, within which access consists of three complementary elements: means of transport, location and quality of facilities, and transport infrastructure. Successful approaches to improving transport services must deal with issues related to low population density and transport demand in rural areas, should be cost-effective and use flexible technology. It is estimated that about 857 km regional and rural road are reconstructed since 2008 at present by ADF.

There are not clear evidences from Regional Agency of Development for investments which are considerable part of that network. Field situation assessment of regional and rural roads was made on basis of the situation of soil and subsoil of the road, on the existence of stable structures such as bridges, retaining walls or receiving drainage channels and the position of their location from the point of view of economic development zoning. For this we have considered three scenarios: "base", "optimistic" and "pessimistic". Traffic is expected to grow at 1.2 and 0.8 times of the base rate in the last two scenarios. Scenario implies a base of 4.3 times increase the number of passenger cars during the next twenty years - vehicles for about 320 cars/population - close to current levels in the other former countries of the "Eastern bloc".

An elasticity of demand with travel cost is supposed to be 1.0. If travel costs are reduced by 50%, what would happen in the situation when a gravel road is not so good conditions will be rehabilitated with asphalt, will also not happen a 50% increase in traffic?

Table 1: Prediction "Base", "Optimistic" and "Pessimist" of "Traffic Rate" growth

Table 2.1: "Base" scenario; Annual growth prediction of "Traffic Rate"

Description	2009-2014	2014-2019	2019-2024	2024-2029
Car	8.00%	9.60%	7.00%	5.60%
Public transport	3.20%	4.80%	4.00%	3.20%
Freight	4.40%	6.60%	5.50%	4.40%

Table 3.2: "Optimistic" scenario; Annual growth prediction of "Traffic Rate"

Description	2009-2014	2014-2019	2019-2024	2024-2029
Car	9.60%	11.50%	8.40%	6.70%
Public transport	3.80%	5.80%	5.00%	3.80%
Freight	5.30%	7.90%	6.60%	5.30%

Table 4.3: "Pessimist" scenario; Annual growth prediction of "Traffic Rate"

Description	2009-2014	2014-2019	2019-2024	2024-2029
Car	6.40%	7.70%	5.60%	4.50%
Public transport	2.60%	3.80%	3.20%	2.60%
Freight	3.50%	5.30%	4.40%	3.50%

Following is the map of Albania and the extend of objects that have been completed and those in process, for regional and local roads.

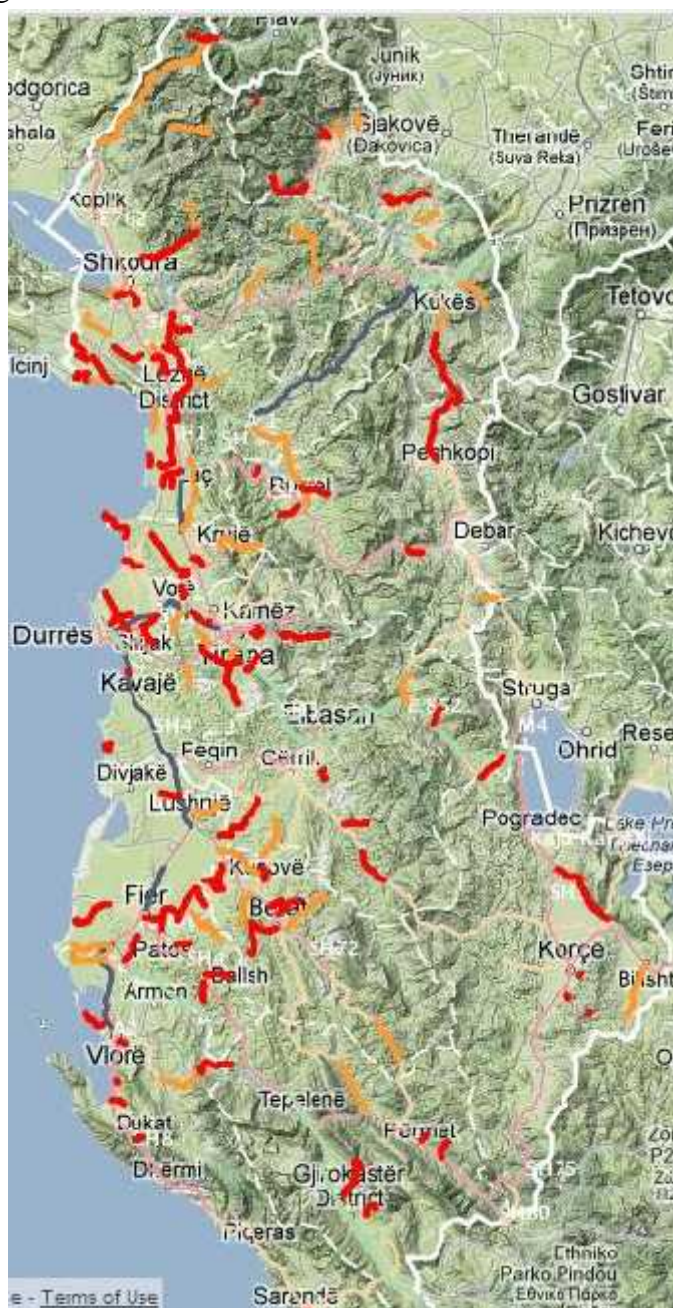


Figure 1: Map of Albania of the regional and rural roads distributed in all Regions managed by ADF. (Source ADF)

3 METHODOLOGY FOR RANKING OF REGIONAL AND RURAL ROADS

Initial Ranking of Regional Roads was based on Economic and Multi-Criteria Analyses with Criteria Weightings considering:

- Economic of Returns EIRR(as measured by RED Model which Calculates vehicle operating costs for each road section using data on roughness, width, geometry, unit costs for different vehicle-types etc; Uses traffic and engineering cost data to calculate year-on-year costs in with and without project situation for agreed period (usually 20 years). Calculates NPV and EIRR of Investment of low volume roads).
- Social Deprivation indicators
 - population density
 - people living in poverty
 - education standards
 - Unemployment
 - Health issues
- Accessibility Indicators. The accessibility indicators consist of the distances of the start of the sections from the Qark or any national (rural) roads and district HQs, and the lengths of the road section – roads which access areas far from the Qark and District HQs are therefore favored. A third indicator is the condition of the road to which the subproject connects.
- Community priorities.
- Willing to pay for maintenance cost.
- Economic Potential Indicator.

There are two sub-criteria (i) assessments of the percentage of cultivatable land that was currently unused; and (ii) known planned or committed other developments along the road (e.g. open-pit mine, manufacturing etc).

The RED Program Manager assumes that all the roads in an analysis have similar vehicle operating characteristics. It was therefore necessary to sort the 183 road sections into appropriate categories,(*All these roads examined are included to ANNEXE , Table Nr. 1.*)

- Existing gravel or bitumen;
- Regional of Commune Roads – which has affect on the with-project construction standards and hence the “with-project , vehicle operating costs;
- Present road width (4 bands were applied: <3.5m, 3.5m – 4.5m, 4.5m – 5.5m, and > 5.5m); - width affects the “without-project” vehicle operating costs.

Within RED the effects of vehicle operating cost changes in different terrains can be automatically applied, so this parameter is not required in the sort process .

The costs of construction are input to RED and therefore take into account all factors considered necessary by engineers – for example different costs of construction in different terrain types. A mountainous terrain road is, of course, more expensive to rehabilitate than a road in rolling terrain. In our opinion today it is not true to say that about the most expensive roads, because of the recession and contracting companies are hardly competing to win the tender at the minimum cost per unit.

RED is an economic based model which can provide the economic justification for a road rehabilitation program. Costs and benefits are considered over a typically 20-year period. RoMAPS, on the other hand, is a road management system which allocates an annual routine maintenance budget according to pre-installed decision-making criteria – one of which can, of course, be economic. A link between the two systems is established by road stylization inventory, for all road sections including bridges, culverts and signalization. An example how this inventory is created is Table Nr. 2

2010/ 2011 Road Inventory

Table 2: ROMAPS Reports

Region: DURRES

District	Road No	Road Name:	Start km	End km	Length km	Start Name:	End Name:
DURRES		Drac - Shetaj	0.00	3.25	3.25	Drac	Shetaj
	C.DR.01	FLLAKE- FSHATI RINIA	0.00	2.30	2.30	NE DALJE TE BISHT KAMZES	NE HYRJE AFERSISHT 100 M FSHATI RINIA
	C.DR.03	KATUNDI RI-JUBE	0.00	3.50	3.50	LAPIDARI(NE KATUND RI)	JUBE(AFER DALJES NE DET)
	C.DR.04	KATUNDI SUKTH - RADIOSTACIONI	0.00	3.40	3.40	KATUNDI SUKTH	RADIOSTACIONI
	C.DR.10	KRYQEZIMI HAMALLAJ - FSHAT HAMALLAJ	0.00	3.30	3.30	KYQEZIMI HAMALLAJ	FSHATI HAMALLAJ
	C.DR.107	Bizaj - Shetaj	0.00	3.20	3.20	Qender Bize (Kisha)	Shetaj
	C.DR.12	KRYQEZIMI KOMUNE GJEPALE-CIZMELI FSHAT	0.00	5.20	5.20	KOMUNE GJEPALE	CIZMELI FSHAT
	C.DR.17	LALEZ- BIZE	0.00	4.70	4.70	KRYQEZIMI ISHEM	QENDER BIZE
	C.DR.22	SHKAFANE - ISHEM	0.00	10.00	10.00	SHKAFANE	KOMUNA ISHEM
	C.DR.30	Kryqezimi Shkafane - Kurataj	0.00	5.00	5.00	Kryqezimi shkafane	Kuraten
	C.DR.31	Kryqezimi Shkafane - Qender	0.00	6.00	6.00	Kryqezimi Shkafane	Qender Shkafane

Source of information ADF, stylization inventory

4 INVESTMENT IN THE LAST DECADE ON THE REGIONAL AND RURAL ROADS IN ALBANIA

As result of small investment in regional and rural roads after 2000-nd and due to very poor condition of the road infrastructure, this network was devastated. So from 2007 Albanian Government initiated investments of the program for reconstruction of regional and rural roads which is financed mainly from WB, EIB, EBRD, IDB, OPEC KfW, IPA etc and it is managed by ADF. At the begging was conducted a discussion between GoA, WB, Consultant for Planning and design of RRR, and ADF on the development of policies referred for such investments. Reconstruction design of the pilot projects during 2008 can't make in consideration the rehabilitation of the bridges. Later on 2010 some of the bridges were consider on road design. The standard used for design road reconstruction of 1000-1500 km was different and the widespread of the roads where based on the elimination of inequalities.

The objective of the paper is to present the list of 1000 km regional and rural roads in Albania based on visual inspection from different areas that are part of the country, concentrating on their conditions and the priority classification. The initiative for the reconstruction of regional and local roads was implemented by using FIDIC contract. It is a new contract for Albanian construction industry and compare to the other contracts used before on construction works, it is consider more tolerable and comprehensive.

5 CONCLUSION

A problem of regional and rural roads management in Albania, which are roads with low traffic volume, is the amount of funds and resources for maintenance costs before and after reconstruction. Performance of regional and rural roads has improved in recent years, although many road axes are in poor condition.

Roads designed for low-traffic were not given the possibility to a precise definition of maximal loads for design, and use of reconstructed roads from calculated loads during design which leads to deterioration of the quality of reconstructed or not reconstructed roads. Also projection of roads in some reconstructed axes do not take into account the reconstruction of bridges that are either in poor condition or are more narrow than the width of the carr iageway. According to the REDS method used for selecting routes, are provided interesting and valuable information on the possibility of solving this problem through the application of limited cargo, or by improving the road network loads.

Due to the lack of an efficient maintenance system some roads are in poor condition. Over spring are observed structural damages and deformations road tracks layers, which may not allow the passage of vehicles with high load. Modern technology has provided an opportunity for minimizing additional costs in the case of temporary weighed cargo using signing. Currently we possess no policies to predict growth or curbing traffic, as there are still being prepared urban and rural development plans. Even the design manual EPTISA, is still in

draft form and does not include road axes with a width that is currently being applied in some funded roads, where traffic is not significant.

In order to have an efficient management and maintenance system of rural and regional roads, it is important information on real situation of the roads, the creation of a database as well as the approval of regional and urban development plans. Gathering information on the real situation and database creation, is cost-effective because allows to design in advance funding road axes by the urban development plan and accurate projects.

One of the causes of the poor condition of unpaved roads, but also to those reconstructed is lack of drainage system improvement. This problem has not been seen only in Albania. Although various techniques have been used, we think building natural channels might be replaced by concrete structure channels, despite high construction costs, they favour a lower cost of maintenance and cause a greater duration artwork.

Future research should focus further on the following topics:

- 1) Which is the lower road standard that can be allowed, what are the social benefits and costs for road users and its owner to have an adequate road performance?
- 2) How much funding is needed for roads with low traffic volume to maintain a road network at a sufficient service.

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ANNEXE

TABLE NR.1 The examined Roads

Nr.	DISTRICT	ROAD NAME	LENGTH KM
1	BERAT	DEVRIK LESHNJE - VLUSHE	10.1
2	BERAT	GJERBES - LUADH	14.6
3	BERAT	K.KARKANJOZ - TOMORR	12.3
4	BERAT	K.POBRAT- DONOFROSE - CUKALAT	7.6
5	BERAT	K.PRONOVIK - TERPAN	19.1
6	BERAT	K.SINJE - LEVAN	6.7
7	BERAT	K.VELMISH - DONOFROSE	3.8
8	BERAT	KUC - MALAS BREG	3.4
9	BERAT	VELESHNJE - MOLISHT	4.8
10	SKRAPAR	COROVODE-GJERBES	26
11	SKRAPAR	GJERBES- URA TOMORRICE	1.95
12	SKRAPAR	K/ZOGAS - POTOM	22.1
13	SKRAPAR	LISI BUZUQ - STRORE	4.1
14	SKRAPAR	THEREPEL - VENDRESH	5.1
		TOTAL	141.65

Nr.	DISTRICT	ROAD NAME	LENGTH KM
1	HAS	GJINAJ	4.6
2	HAS	SEFOLL-FAJZA	3.85
3	KUKES	FUSHE DUKAGJIN-QAFE KOMI	27.4
4	KUKES	KOLESIAN-LAKU I DARDHES	10.1
5	KUKES	MALQENE	1.9
6	KUKES	SHTANE-DUKAGJIN	8.6
7	KUKES	TOPOJAN-BREKI	2.8
8	TROPOJE	BUKOVE-LUZHE	3.8
9	TROPOJE	DEGE-FIRZE	15.8
10	TROPOJE	PAC-ZHERKE	4.45
		TOTAL	83.3

Nr.	DISTRICT	ROAD NAME	LENGTH KM
1	DEVOLL	AKSI NACIONAL KORCE BILISHT - BITINCE	1.17
2	DEVOLL	AKSI NACIONAL KORCE BILISHT - TREN	4
3	DEVOLL	AKSI RRUGES VERLEN - CIPAN	3.55
4	DEVOLL	POLOSKE - VERLEN	5.45
5	DEVOLL	VISHOCICE - TRESTENIK	3.1
6	KOLONJE	KRYQEZIM RRUGE BEZHAN - SKOROVOT	2.4
7	KOLONJE	KRYQEZIM RRUGE NACIONALE - KRESHOVE	3
8	KOLONJE	KRYQEZIM RRUGE NACIONALE - SHTIKE - BUTKE	5.57
9	KOLONJE	KRYQEZIM RRUGE NACIONALE - STARJE	3.5
10	KOLONJE	KRYQEZIM RRUGE NACIONALE - VODICE	5.65
11	KORCE	KRYQEZIM PETRUSHE - VRESHTAS	4.55
12	KORCE	SHEQERAS - VRESHTAS	7.95
13	KORCE	VITHKUQ - SHTYLLE	6.5
14	POGRADEC	KALIVAC - DUNICE	4.3
15	POGRADEC	SLABINJE - BISHNICE	12.95
16	POGRADEC	URA GOLIK - PROPTISHT - SLABINJE	11.7
		TOTAL	85.34

Nr.	DISTRICT	ROAD NAME	LENGTH KM
1	KAVAJE	KRYQEZIM I RRUGES SPILLE - STERBERG - SPANESH - KAZIE - DOMEN	15
2	KAVAJE	KRYQEZIMI RRUGA AUTOSTRADA - LISPATROS	9.6
3	KAVAJE	RRUGA KAVAJE - HAJDARAJ - RRIKAJ	5.4
4	TIRANA	BERXULLE - MUKAJ	2.1
5	TIRANA	KRYQEZIMI RRUGA BIZE- PRISKE	3.3
6	TIRANA	KRYQEZIMI RRUGA ELBASAN - KLLOJKE	15.9
7	TIRANA	PEZE E MADHE - GJYSULKONJE	9.4
8	TIRANA	RRUGA UZINA ARTILERISE - ZALL BASTAR	14.4
9	TIRANA	ZALL HERR(URA) - HERRAJ	2.7
		TOTAL	77.8

Nr.	DISTRICT	ROAD NAME	LENGTH KM
1	BULQIZE	QYTETI I RI - VAJKAL	3.8
2	BULQIZE	RRUGA ZOGJEJ	5.6
3	BULQIZE	URA E CERENECIT - GJORICE	2.7
4	DIBER	MAQELLARE - KERCISHT	4.1
5	DIBER	RRUGA BEGJUNEC	2
6	DIBER	URA E VAROSHIT - MUHURR	28.51
7	MAT	ASFALTIMI I RRUGES BUSHKASH	2.9

8	MAT	RRUGA BAZ	4.7
9	MAT	URA E BALES - BERSHI	3.1
10	MAT	VIG - KRYQEZIMI VAROSH	3.4
		TOTAL	60.81

Nr.	DISTRICT	ROAD NAME	LENGTH KM
1	GJIROKASTER	KTHESA GORANXI - BULO	2.93
2	GJIROKASTER	URA E SUBASHIT- LABOVE E VOGEL	8.23
3	PERMET	DEGEZIMI LUARE - LUARE	4.9
4	PERMET	QAFE E KICOKUT - MALAS	10.23
5	TEPELENE	AGJENSIA LUFTINJE - QENDRA E KOMUNES BUY	19
6	TEPELENE	KUFIRI GUSMAR - GUSMAR	1.57
7	TEPELENE	RRUGA NACIONALE TEPELENE - GUSMAR	26.61
		TOTAL	73.47

Nr.	DISTRICT	ROAD NAME	LENGTH KM
1	KURBIN	GALLATE-VINJOLLE	6.3
2	KURBIN	MALBARDHE- RRUGE NACIONALE	2.1
3	KURBIN	RRUGE NACIONALE-GALLATE	9
4	LEZHE	BLINISHT-TROSHAN	4.25
5	LEZHE	DAJC-KOTERR	3.5
6	MIRDITE	KACINAR - ARREZ	2.6
7	MIRDITE	KLOS -KONAJ	4.5
8	MIRDITE	KULME -RRESHEN	5.7
9	MIRDITE	KURBNESH- ZAJ	2.6
10	MIRDITE	PERLAT EPER-SHEBE	3.4
11	MIRDITE	RRESHEN-KACORRAJ-SHESHAJ	4
12	MIRDITE	RUBIK -KATUNDI I VJETER	3.45
13	MIRDITE	TARAZH-MALAJ	11.3
		TOTAL	62.7

Nr.	DISTRICT	ROAD NAME	LENGTH KM
1	VLORE	KOTE - AMONICE - VLLAHINE	16.9
2	VLORE	KTHESA RAMICE-RAMICE	12
3	VLORE	AKERNI - PORO	5.3
4	VLORE	MESAPLIK - SHALES	1.8
5	VLORE	SMT-OSHETIM	1.6
6	VLORE	BUNAVI E SIPERME - BESTROVE	2.7
7	VLORE	KTHESA PILURIT - PILUR FSHAT	4.2
8	DELVINE	STJARE-VERGO	9
9	DELVINE	DELVINE- LEFTOTHOR	6
10	DELVINE	SHELEGAR-VRION	2
11	SARANDE	MURSI-MURSI	2
12	SARANDE	DERMISH-CERKOVICE	5
13	SARANDE	LIVADHJA-GRAVE	5
14	SARANDE	QENDER BORSH-HALIC	4

15	SARANDE	PIQERAS-SHKALLE	4
16	SARANDE	ALIKO-NEOHOR	3
17	SARANDE	HORE VRANISHT-BORSH	17
		TOTAL	101.5

Nr	DISTRICT	ROAD NAME	LENGTH KM
1	KRUJE	NIKEL- MUKJE	10.7
2	KRUJE	RINAS - QEREKE	3.2
		TOTAL	13.9

Nr.	DISTRICT	ROAD NAME	LENGTH KM
1	FIER	ADE - PESHTAN - BREGAS	4.3
2	FIER	CAKRAN - HAMBAR	5.05
3	FIER	CAKRAN(KRYQ/FLOQIT)- BUZEMADHE-SELISHTE	7.1
4	FIER	KTHESA QARR - HOXHARE	9
5	FIER	LEVAN - SHTYLLAS	4.85
6	FIER	PATOS I VJETER - SIQECE	7.5
7	FIER	PETOVE - LIBOFSHE	8.7
8	FIER	POJAN - SOP	3
9	FIER	ROSKOVEC -MARINZ	2.1
10	FIER	VJOSE - VARIBOB - CAKRAN	7.25
11	LUSHNJE	GUR-REMAS - KARAVASTA	6.1
12	LUSHNJE	HYSGJOKAJ -QAFE RAS	2.4
13	LUSHNJE	KTHESA PLUG- PLUG QENDER	2.1
14	LUSHNJE	KTHESA SULZOTAJ - SULZOTAJ FSHAT	2.8
15	LUSHNJE	XIBRAKE- PEQIN	6.5
16	MALLAKASTER	BALLSH- DRENOVE	5.66
17	MALLAKASTER	GADUROV - ZIAJ	6
18	MALLAKASTER	HEKAL - KLOS	3.4
19	MALLAKASTER	HEKAL - MOLLAS	6.9
20	MALLAKASTER	KLOS -POCEM	2.2
21	MALLAKASTER	KTHESA KAPAJ SELITE - ARANITAS	10.6
22	MALLAKASTER	KTHESA RRUGE NACIONALE CARRUSH	10.2
23	MALLAKASTER	LAFKEND KRYQ - DRENIE	4.1
24	MALLAKASTER	RRUGA NACIONALE -SELITE	6.65
		TOTAL	134.46

Nr.	DISTRICT	ROAD NAME	LENGTH KM
1	MALESI E MADHE	FSHATI BZHETE - FSHATI XHAJ	3.4
2	MALESI E MADHE	FSHATI ZAGORE - FSHATI DEDAJ	2.6
3	MALESI E MADHE	QENDER KOMUNE - FSHATI VUKPOLAJ	2.4
4	MALESI E MADHE	RRUGA BORIC I VOGEL - BORIC I MADH	3.2
5	MALESI E MADHE	RRUGA KOSAN	3.3

6	PUKES	DEGEZIM RRUGA IBALLE - LEVOZHE	3.1
7	PUKES	DEGEZIMI RRUGE(TUNELI) - KIMEZ - QAFE LISI	17.5
8	PUKES	FSHATI FARREZ - FSHATI QENDER	2.2
9	PUKES	FSHATI KRYEZI - FSHATI ARIFAJ	1.5
10	PUKES	KTHESA KRRABIT - ANTENAT - UJESJELLESAT	21.3
11	PUKES	QAFE MOLLE - PROZHEM	3
12	PUKES	QAFE QERRET - QERRET	4.5
13	PUKES	QENDER KOMUNE - FSHATI PACAJ	2.2
14	PUKES	QEPIK (HOTELI-RRUGA NACIONALE)-TRUEN	3
15	PUKES	QERRET - DUSH	6
16	PUKES	QYTET PUKE - FSHATI LAJTHIZE	3.5
17	PUKES	QYTET PUKE - FSHATI ZEZAJ	0.95
18	PUKES	RRUGA MEMAJ - KABASH	7
19	PUKES	RRUGA NACIONALE FSHATI PORAN	1.05
20	PUKES	RRUGE NACIONALE - KALIVARE - MESUL	4.3
21	SHKODER	BOKS, DRAGOC - KULLAJ	4
22	SHKODER	DEGEZIM RRUGA KAVAJES - KULLAXHI	4
23	SHKODER	GRAMSH - SUKAJ DAJC	2
24	SHKODER	QENDER KOMUNE - DIGA H/C KOMAN	3.2
25	SHKODER	QENDER KOMUNE - SAMRISHT I VJETER	1.9
26	SHKODER	RRANXHAJ - GJONDREKAJ -QENDER TRUSH	4.2
27	SHKODER	SHIRQ -DARRAGJAT - BERDICE E MADHE	6
28	SHKODER	SUPERSTRADE - FSHAT ASHTE - KOSMAC	3.45
		TOTAL	124.75

Nr.	DISTRICT	ROAD NAME	LENGTH KM
1	ELBASAN	GRIQAN - LABINOT KATUND	4.5
2	ELBASAN	KOZAN - DOPAJ	4.38
3	ELBASAN	KRYQ/AUTO RRUGA NACIONALE ELBASAN-GRAMSH-FSHATI MUCAN	2.62
4	ELBASAN	KRYQ/RRUGA NAC. METALURGJI - HARVALEAS	2.51
5	ELBASAN	KUSARTH - KARAKULLAK	1.7
6	ELBASAN	MLIZE - SHUSHICE	3.96
7	ELBASAN	PERRROI PAHAIT - SERICE	2.23
8	ELBASAN	RRUGA KLOS-SERVIAS - QYRKAN	0.52
9	ELBASAN	RRUGA MOLLAGJESH - KORRE	7.1
10	ELBASAN	RRUGA NACIONALE - BUJARAS	3.35
11	ELBASAN	RRUGA NACIONALE - GODOLESH	5.63
12	ELBASAN	RRUGA NACIONALE BREGORE - POBRAT	3.44
13	ELBASAN	RRUGA NACIONALE ELBASAN - BELESH-LICAJ-XEBRA,XHERIJE	3.45
14	ELBASAN	RRUGA NACIONALE KRASTE-BYSHEK	2.89
15	ELBASAN	RRUGA NACIONALE LABINOT FUSHE - POLIS I VOGEL	3.25
16	ELBASAN	RRUGA NACIONALE PAJENGE - TERBAC	3.55
17	ELBASAN	RRUGA NACIONALE PAPER - PAPER ZALL	2.72
18	ELBASAN	RRUGA NACIONALE UZINA MJEKES - KRYEZJARR	1.9

19	ELBASAN	RRUGE NACIONALE VALAS - BROSHKE	3.5
20	PEQIN	RRUGA KARINE - FSHATI KASEJE	1.16
21	PEQIN	RRUGA KARINE-CELAJ	0.95
22	PEQIN	RRUGA NACIONALE - KARINE- SINAMETAJ	4.33
23	PEQIN	RRUGA NACIONALE BISHQEM FUSHE-LEQIT	2.35
24	PEQIN	RRUGA NACIONALE LOLAJ - BICAJ /LISNAJE	0.9
25	PEQIN	RRUGA NACIONALE PAJOVE - HASPIRAJ	4.73
26	PEQIN	RRUGA NACIONALE PEQIN - GJOCAJ/KURTAJ	7.69
27	PEQIN	RRUGA NACIONALE RROGOZHINE - PEQIN-CELHAKAJ	2.76
28	PEQIN	RRUGA SHEZE - VASHAJ	4.4
29	GRAMSH	ANTENA VODAFONE - SOJNIK	2.13
30	GRAMSH	LILAJ - GRIBE	4.1
31	GRAMSH	RRUGA FUSHA E SPORTIT - TUNJE E RE	3.52
32	GRAMSH	RRUGA GRABOVE E POSHTME - GRABOVE E SIPERME	8
33	GRAMSH	RRUGA QAFE DUZHE - TUNJE	5.2
		TOTAL	115.42

District	TOTAL KM
Tirana, Kavaje	77.8
Fier, Lushnje, Mallakaster	134.46
Berat, Kucove, Skrapar	141.65
Lezhe, Mirdite, Kurbin	62.7
Shkoder, Puke, Malesi e Madhe	124.75
Gjirokastra, Permet, Tepelene	73.47
Elbasan, Gramsh, Peqin, Librazhd	115.42
Diber, Bulqize, Mat	60.81
Vlore, Sarande, Delvine	101.5
Durres, Kruje	13.9
Kukes, Has, Tropoje	83.3
Korce, Pogradec, Erseke, Devoll	85.34
TOTAL	1075.1

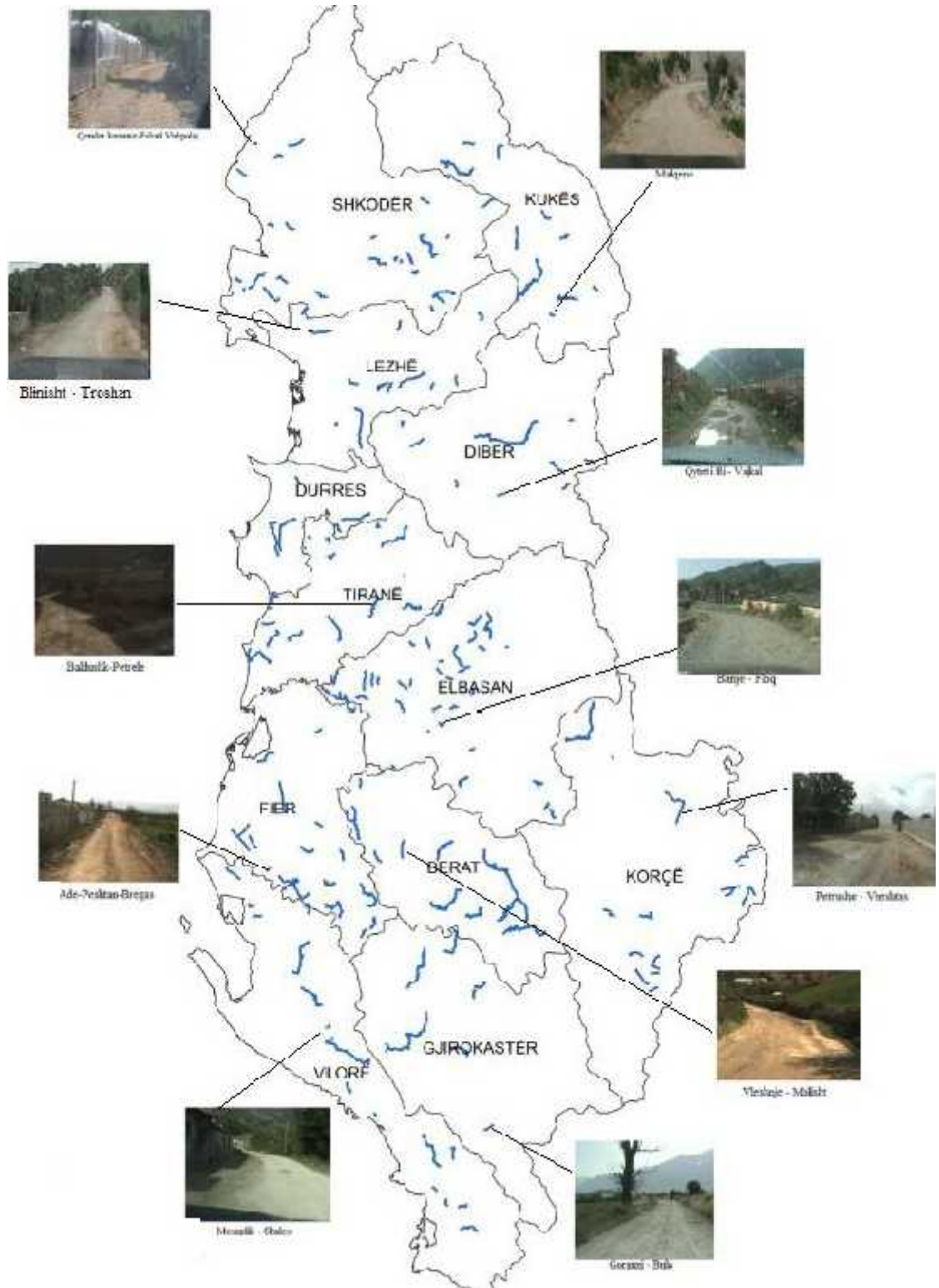


Figure 2. The Map of Regional and Rural roads assessed widespread in Albania.