

IS SOUTH AFRICA TAKING RURAL TRANSPORT SERIOUSLY: A COMPARATIVE ANALYSIS OF RURAL TRAVEL AND DEVELOPMENT BETWEEN SOUTH AFRICA AND INDIA

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ABSTRACT

South Africa (SA) and India are predominantly “rural” nations as depicted in Table 1.

Table 1: Population statistics of South Africa and India

	South Africa	India
Urban Population	27 804 700	314 145 300
Rural Population	19 083 500	780 437 700
% of Total Rural Population	40.7	71.3

Source: World Development Indicators Database, 2005

However, rural development is a topic which has gained currency in either country only during recent times. SA and India have been experiencing encouraging rates of economic growth but it has been far from equitable. A key offshoot of the increasing growth rates is that the income disparity has widened considerably. This is more so in SA in the post apartheid era. Both India and SA were colonized countries with a similar historical background. Hence it has become imperative on the part of both governments to view rural development as a priority area.

A key reason for rural poverty in SA and India is the lack of access to basic services. A major reason for lack of access in either country has been an inadequate road network and hence, robust rural transportation. Improved rural transport is needed to reduce poverty, improve livelihoods, increase economic growth and provide better access to health, education and other services.

Given that at least on the surface, there are many similarities in the rural transportation scenario in SA and India, it makes sense to study the two countries together, to note similarities and differences in the issues and challenges confronted by either, as well as the approach adopted in addressing the solution. The main purpose of this paper is to critically understand and analyze the issues of rural transport access with reference to the issues at hand, and approaches adopted for addressing the same. The efficacy of these approaches would be contemplated with the backdrop of the institutions related to rural governance in either country.

In a nutshell the paper has the following objectives:

- Understanding issues related to rural access from both a historic and contemporary perspective;
- To analyze the approaches adopted for addressing challenges;
- Understanding of community needs, given the cultural intricacies and nuances in either countries; and
- To examine the potential for improvement in the accessibility scenario focusing on the rural governance institutions prevailing in both countries.

Transportation is the key driver of economic activities and particular emphasis will be taken into consideration for the comparative analysis between SA and India. The key contributory factors for the future of sustainable rural transport and development will be addressed as well as challenges exacerbated due to the global economic crisis, rural transport policies and programmes. Rural transport solutions can help communities and stimulate development. There are several ways in which national authorities and development organisations can assist. National and international programmes must recognise the development benefits that come from local rural transport solutions and address the social, economic and technical implications.

In conclusion, transport is critical to poverty reduction but if inappropriately designed, transport strategies and programs result in networks and services that heighten the conditions of the poor, harm the environment, ignore the changing needs of users, and exceed the capacity of public finances. Transport is capable of generating growth by facilitating trade both nationally and internationally, and by increasing access to social services. The comparative analysis will determine by investigation whether South Africa is taking rural public transport seriously.

1. INTRODUCTION

One of the most formidable challenges facing the world today is poverty alleviation. A particular daunting problem within the ambit of poverty alleviation is rural poverty. This is a major issue of concern in South Africa and South Asia. For instance, India, deemed to be one of the fastest growing economies has a rural poverty share of 71.3 percent of the rural population (IFAD), which translates to more than 780 million poor people living in rural areas. There are various causes of poverty. The Asian Development Bank defines poverty as “a deprivation of essential assets and opportunities to which every human is entitled.”

At this juncture, it may be pertinent to define the problem of accessibility. Fyle (Geneva, 1998) defines accessibility as that which is determined by location of different points of satisfaction on the one hand and people’s ability to reach these points. The problem is one of the relative ease, in terms of time and cost, with which a need can be satisfied. Rural access can be defined as the ability of or the level of difficulty for rural people to use, reach or obtain the necessary facilities, goods or services. The female literacy rate is 60 percent higher in villages with all season access as compared to villages with unreliable access (Lebo and Schelling, World Bank). It is a known fact that accessibility and poverty are negatively correlated. However studies have shown that a causal relationship exists between access and poverty. Tighe and Strandberg (1994) identify isolation as a major constraint to development and a sustaining factor for poverty.

Table 2 : Elements of rural access

Physical	Social	Economic
<ul style="list-style-type: none"> • Relates to distance and travel 	<ul style="list-style-type: none"> • Function of culture, customs and responsibilities 	<ul style="list-style-type: none"> • Relates to the ability to pay
<ul style="list-style-type: none"> • Attempts to capture the relative ease with which people reach certain locations 	<ul style="list-style-type: none"> • Health services for example, may exist in rural areas but lack of trust in formal healthcare may prevent people from availing of the same 	<ul style="list-style-type: none"> • Cost of education for example may prevent people from sending their children to school which otherwise was "accessible"
<ul style="list-style-type: none"> • Can be improved by enhancing rural infrastructure 	<ul style="list-style-type: none"> • Access to health is limited for social reasons 	

The access needs of rural people can be grouped in three broad categories:

- Those associated with basic needs such as water supply, firewood and food security;
- Those associated with social welfare or rural life such as rural health and education; and
- Those associated with the economic aspects of rural life such as agriculture, livestock and cottage industry.

In this light, physical rural accessibility has three elements:

- The location of households;
- The location of facilities and services; and
- The **transportation system** to bring together the previous two elements.

Considering the above, access can be improved in three fundamental and complementary ways:

- Through better location of facilities that people need to use, e.g. water supply, school, health centres and markets;
- Improving the mobility of rural people so that they can travel faster with convenience and in an economical way. This could be accomplished by providing rural roads, tracks, trails, footbridges, etc; and
- Promoting and stimulating the use of communication technology so that people have improved access to information related to health, education and market prices. Internet kiosks, rural telephones, etc. could facilitate information access.

This paper is a comparative study of the rural travel and development scenario between South Africa and India and will highlight the question whether South Africa is taking rural public transport seriously?

2. REASONS FOR CHOOSING INDIA AND SOUTH AFRICA FOR THE COMPARATIVE STUDY

Over the last decade, South Africa and India have been experiencing high rates of economic growth. As a result they have attained strategic positions in global affairs. This has been consolidated with the formation of IBSA, trilateral developmental initiative between South Africa, Brazil and India. Both the countries share many commonalities. Both are predominantly rural in nature. While 42,2 percent of the Indian population live in villages (Census of India, 2001), the corresponding figure for South Africa is 42 percent (World Bank, 2003). Rural poverty is prevalent in both countries. A key reason for rural poverty is the lack of access to basic services (refer to Table 2). The major reason for lack of access has been an inadequate road network which impinges on the provision of adequate and robust rural transportation. Given the similarities, the comparative analysis is appropriate. The differences would highlight the challenges and issues confronted by either, as well as the approach adopted in addressing the same. The efficacy of these approaches would be contemplated with the backdrop of the institutions related to rural governance in either country.

2.1 Definition of 'rural'

Table 3 : Definition of 'rural' between South Africa and India

Rurality in Indian context (GOI, 1971 & IRDA, 2002)	Rurality in South African context (StatsSA)
<ul style="list-style-type: none"> All places with a municipality, corporation or cantonment or notified town area 	<ul style="list-style-type: none"> Currently no agreed definition in SA – the term is used random for different purposes and this causes confusion
<ul style="list-style-type: none"> All places which satisfy the following criteria: <ol style="list-style-type: none"> A minimum population of 5000; At least 75% of the male working population was non-agricultural; and A density of population of at least 400/sq.km. 	<ul style="list-style-type: none"> StatsSA classified areas proclaimed as municipalities (mostly the cities and “white” towns and their associated townships) as urban and everything else as rural.

It is suggested that every local municipality should be categorised according to the dominant settlement pattern and access to amenities. Each municipality could then be placed into one of the following categories:

- Metropolitan area: Metropolitan municipality;
- Other urban area: Local municipality that includes a city or large town and has most tarred roads, piped water and flush sanitation, and a wide range of services;
- Close rural area: Local municipality that has small towns, > 50% of people within a 5km of a tarred road piped water but a limited choice of services; and
- Deep rural areas: Local municipality that has small towns, > 50% of people live more than 5km from a tarred road, > 25% of people use water from streams, rivers, dams or rainwater tanks and people have a very limited choice of services.

Draft categorization should be done by an inter-departmental technical committee that includes StatsSA, the Municipal Demarcation Board, departments of Cooperative Governance and Traditional Affairs (COGTA), Treasury and Health and thereafter gazetted by the Minister of COGTA.

2.2 Rural demographics

India occupies 2,4% of the world's land area and supports 17,5% of the world's population. India has more arable land and water than any other country in the world except for the United States of America. Indian life therefore revolves mostly around agriculture and allied activities in small villages, where the overwhelming majority of Indians live. 72,2% of the 1,1bn population live in about 638 000 villages and the remaining 27,8% live in more than 5 100 towns and over 380 urban agglomerations. The rural population in India is approximately 845 million (World Development Indicators Database, April 2010). In South Africa, 94% of the population lives on only 8% of the land (Community Survey, 2007).

Table 4: Rural demographics comparison between South Africa and India

PARAMETERS	SOUTH AFRICA	INDIA
• Population, total (millions)	48,69	1139,96
• Population, growth (annual %)	1,7	1,3
• Surface area (sq.km) (thousands)	1219,1	3287,3
• Life expectancy at birth, total (years)	51	64
• GDP (current US\$) (billions)	276,45	1159,17
• GDP growth (annual %)	3,1	6,1
• Agriculture, value added (% of GDP)	3	17
• Industry, value added (% of GDP)	34	29
• Services, etc., value added (% of GDP)	63	54

3. RURAL TRANSPORTATION SCENARIO IN INDIA AND SOUTH AFRICA

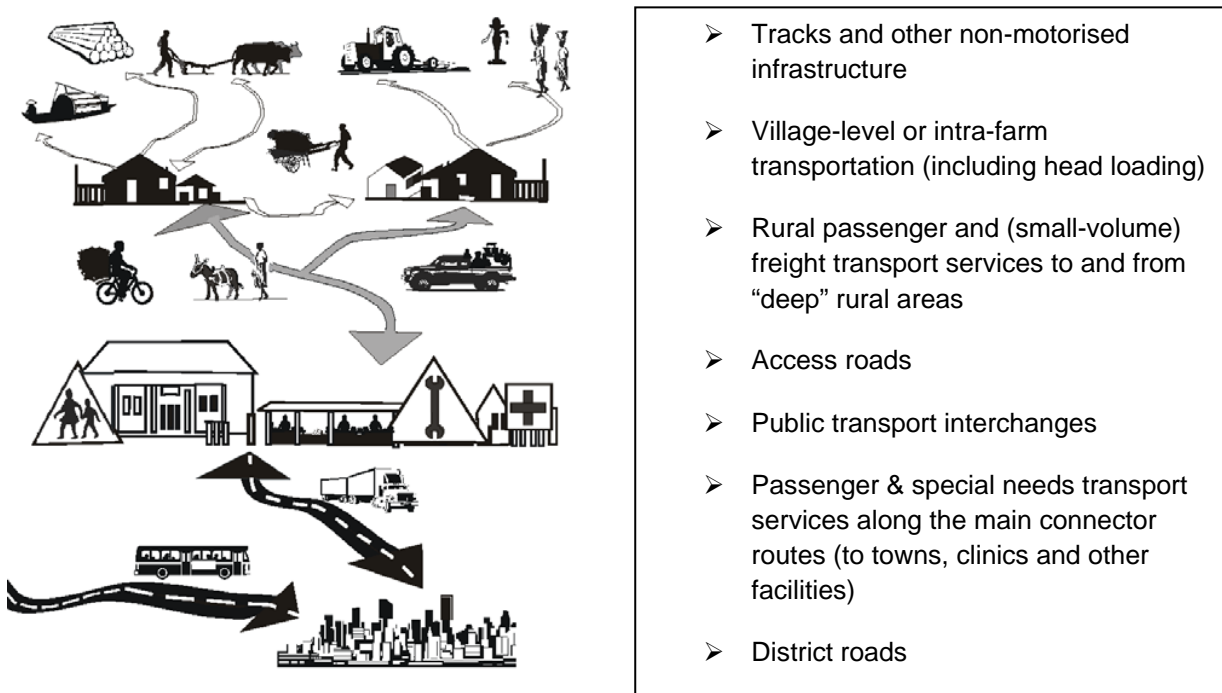
Rural transport can be defined as “the movement of persons or goods for any conceivable purposes (including collection of water or firewood), by any conceivable means (including walking and head loading) on various types of infrastructure (including unproclaimed roads, tracks or footpaths)” (Bryceson & Howe, 1992).

Besides the procurement or contracting of rural transport infrastructure and services, the scope of government intervention in this sub-sector also includes transport planning, the auditing, classification and proclamation of the road network, and the auditing and regulation of rural transport services in certain cases. It may also involve the promotion of certain means of transport, transport brokering and other actions to improve information flows and the general operation of the market for rural transport services.

South Africa's total road network is about 754 000 kilometres, 9 600km of which are surfaced national roads. The drive from Musina on South Africa's northern border to Cape Town in the south is a 2 000km journey on well-maintained roads. Around 2 400km of the roads in the country are toll roads. A road-classification system includes the following categories:

- 9 600 km of surfaced national toll and non-toll roads;
- 56 000 km of surfaced provincial roads;
- 300 000 km of gravel provincial roads;
- 168 000 km of surfaced and un-surfaced urban roads; and
- 221 000 km of unclassified roads (predominantly access roads in rural communities and roads in settlements on the urban periphery).

Figure 1: Scope of the rural transport sector



Source of diagram: Starkey, Paul, Simon Ellis, John Hine, Anna Ternell, 2002

Roadways are like the thread binding the topographical variations. The road network of South Africa and India has proven its efficiency by providing its infrastructural contribution to the growth of the economy. Both countries are diverse and the roads act as a national integration force providing the necessary adhesive for bringing the people from all walks of life together with minimal challenges. The road transport system in India is one of the most widespread networks. India has a road network of about 3,3 million kilometers of which rural roads account for approximately 2,8 million kilometers (85%).

Table 5: India Road Network

CLASS	LENGTH	RELATIVE SHARE
National Highways / Expressways	66,754	2.38%
State Highways	128000	3.62%
Major District Roads	470000	13,5%
Rural & Other Roads	2800000	80,5%
Total	3474465	100%

Source: Indiastat.com

The World Bank measures accessibility of rural areas using the Rural Accessibility Index (RAI). In practice the RAI measures the number of rural people who live within 2 kilometers (typically equivalent to a walk of 20-25 minutes) of an all-season road as a proportion of the total rural population. An “all-season road” is a road that is motorable all year by the prevailing means of rural transport. A summary of the RAI is highlighted below.

Table 6 : Rural Access Index between South Africa and India

Country	Year	Total Population	Rural Population	Rural Population with access	Rural Population without access	Rural Access Index
South Africa	1993	45828700	18699492	3926872	14772520	21%
India	2001	1064398592	763082482	457849344	305232896	60%

Source: World Bank, 2006

4. OVERVIEW OF PROJECT / PROGRAMMES TO IMPROVE RURAL ACCESS IN SOUTH AFRICA AND INDIA

4.1 Bharat Nirman

Bharat Nirman is a time-bound plan for rural infrastructure by the Government of India in partnership with State Governments and Panchayat Raj Institutions (2005-2009). Specific targets have been set to achieve these goals and there is accountability in the progress of this initiative. Some of the flagship programmes are as follows:

Table 7 : Details of key rural Infrastructure Schemes under Bharat Nirman

Area	Programme	Objective	Target	Relative Success
Rural Roads	Pradhan Mantri Gram Sadak Yojana (PMGSY)	To provide good all-weather road connectivity to unconnected habitations	Every habitation over 1000 population and above (500 in hilly and tribal areas) to be provided an all-weather road: remaining 66802 habitations to be covered by 2009	New construction: 62,17% Upgradation: 35% Coverage of habitations: 8,74%

Source: Lalwani M, 2010

4.2 South Africa's national rural transport strategy

Thrust	Explanation and Motivation
1) Promote co-ordinated rural nodal and linkage development	<p>The main practical aim should be to develop an effectively interlinked network of multi-purpose nodes and linkages, supported by actions such as:</p> <ul style="list-style-type: none"> ▪ Establishment of transport brokering and logistical services; ▪ Co-ordination of transport, periodic service provision and market schedules; ▪ The exploitation of advancements in information and communication technologies (ICT) to create linkages between hub and satellite nodes; and ▪ Co-ordinated planning and development of transport linkages, including a system of periodic access services.
2) Develop balanced and sustainable rural transport systems	<p>Besides investing in access roads, the development of a balanced rural transport system requires that actions be taken to also improve other forms of rural transport infrastructure (RTI) – such as local connector or district roads, suspension bridges, pontoons, paths, tracks, trails and public transport interchanges. Similarly, it requires concerted actions to redress the relative neglect of all non-motorised as well as “intermediate” motorized transport (such as tractor-trailers), and strengthen as well as regulate the role of the “bakkie-sector” as a viable, demand-responsive transport needs. The need for a sustainable rural transport system relates mainly to establish sustainable funding channels and procurement systems, and develop improved structures for the management of stormwater (which is the major cause of deteriorating road conditions in most “deep” rural areas). The need for sustainability also requires that attention be given to the impacts of the rural transport system on the wider social, economic and biophysical environment.</p>

Source: Department of Transport, 2007

5. RURAL TRANSPORT SOLUTIONS

5.1 The case for local transport solutions

While there may be a case for global solutions to rural transport development challenges, there is an even stronger case to generate solutions imbued with local experience:

- Rural people face many transport problems. They invest much time in essential transport tasks when they depend mainly on walking and carrying. This reduces the time available for more productive activities and reinforces their state of poverty.
- Many studies have shown how much time and effort are invested in basic transport, particularly by women. In sub-Saharan Africa, it has been estimated that women account for 70% of the time spent on transport and nearly 85% of the effort.
- Using intermediate means of transport for domestic tasks, including the movement of water, fuel and food, saves time and energy, particularly for women and children. The time and energy saved can improve the productivity and quality of life of rural households. Intermediate means of transport can assist access to markets, schools, health centers and other social and economic facilities.
- Transport stimulates agricultural production, bolstering trading of manure and fertilizers, crop residues and harvest.

- Intermediate means of transport stimulate greater trade, production and profit.
- Urban versus rural: the development of local transport solutions is generally faster in urban areas, assisted by trade patterns, information flows, cultural diversity and year round economic activity. A 'critical mass' of mutually-reliant transport users and support services develops quickly in towns so that innovation, assessment and adoption can be rapid. The use and diversity of local transport solutions is less in rural areas. This is particularly true in Sub-Saharan Africa. Processes of innovation and adoption take longer, affected by lower economic activity, lower availability of certain materials, fewer cultural exchanges, smaller information flows and higher seasonality of cash flows and transport demand.

5.2 Other issues to consider

The following are other elements that should be considered:

- Transport increases access to markets, agricultural production and household productivity.
- There is a gap between rural and urban transport solutions.
- Women and children are particularly affected.

5.3 Challenges to be addressed

The following constitute challenges that need to be addressed upfront in rural development endeavours are to bear fruit:

- Patterns of adoption not straightforward: population density, incomes, cultures, topography, climate, farming systems, transport needs and project activities all affect the success of promotional programs. Complex combinations of environmental and social-economic factors, together with fickle human reactions, influence transport adoption.
- The 'old-fashioned' image of non-motorized means of transport limits acceptance, especially by young people.
- Many local transport solutions are cheap relative to motor options, but expensive relative to local incomes. High cost limits adoption. People who can purchase, through savings or credit, find intermediate means of transport are a good investment, due to the profitability of transport, marketing and hiring out.
- Women are the main transporters but men are the main users of intermediate means of transport. Gender related constraints often limit women's access to local transport solutions for trade, production and domestic activities. Adding to that, male-orientated designs can constrain use by women and children.
- Understanding the many uses of transport devices.
- Recognizing the complementarity of transport solutions.
- There is need to develop a 'critical mass' of users to make ownership socially acceptable and to justify the establishment of service providers.

- The high transport demand around urban and rural markets stimulates the production and use of a wide range of complementary transport solutions. Rural programs promoting local transport solutions can stimulate the establishment of viable support services near important local markets.
- National governments and donor agencies have concentrated on road networks. Comparatively little money or time has been invested in the promotion of intermediate means of transport for rural people. There is a need to redress the imbalance and emphasize local transport interventions that benefit the majority of rural households.
- Some transport and accessibility problems can be solved without intermediate means of transport.

5.4 Learning from experience

The following constitute lessons from experience that should be taken into account when generating interventions:

- Some technologies spread 'spontaneously'.
- Adoption is not automatic.
- Women have special transport constraints.
- Transport empowers women. With improved access to transport, women can gain time, income, productivity, status and independence. Whole families may benefit through women's access to transport. In some societies, women gain particular benefits from donkeys that have few gender associations.
- Credit can assist the adoption of local transport solutions.

In addition, the following issues need to be considered:

- Challenges to be addressed deal with context-specific.
- Rural versus urban biased transport policies, and
- Transport solutions must consider: (a) the current transport system and trading patterns; and (b) the need of a critical mass of users, operators and suppliers.

6. CONCLUSION

If access to services has to improve rural people's welfare, it has to be combined with complementary initiatives. There is a need for continuous research to strengthen the link between policy intervention and delivery of services. If the transport sector is to contribute effectively to rural development, it must be realized that roads may not be enough. The comparative analysis for rural transport and development between India and South Africa highlights the urgency and need for effective rural transport in both countries. Although South Africa has made strides in rural transport and development since the democratic dispensation in 1994, it certainly needs to take this sector a notch higher, employing some of the pointers enumerated in the paper, if the frontiers of rural poverty are to be permanently pinned back.

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