

3. POLICIES FOR CONNECTING PEOPLE TO PROSPERITY

64. Chapter 2 of this report examined factors that enhance the spatial efficiency of production—through the transformation of land use, mobility of people, and connectivity of places. This chapter identifies public policy priorities for improving spatial equity in living standards. The WDR 2009 highlights the best way for countries to benefit from spatial efficiency in production and spatial equity in living standards is economic integration. The challenge of economic integration can be seen as reducing the distance between people—especially the poor—and prospering places. The WDR 2009’s framework for economic integration includes the following policies:

- Institutions (spatially blind policies). The term is used here to categorize policies that are not explicitly designed with spatial considerations, but that have effects and outcomes that may vary across locations. These policies include the income tax system, intergovernmental fiscal relations, and governance of land and housing markets, as well as education, health care, basic water and sanitation, and other government initiatives.
- Infrastructure (spatially connective policies). The term is used here as shorthand to include all investments connecting places and providing basic business services, such as public transportation and utilities. These investments include developing interregional highways and railroads to promote trade in goods and improving information and communication technologies to increase the flow of information and ideas.
- Interventions (spatially targeted policies). The term is used here to include spatially targeted measures to stimulate economic growth in lagging areas. These measures

include investment subsidies, tax rebates, location regulations, local infrastructure development, and targeted investment climate reforms, such as special regulations for export processing zones.

65. Each of these economic integration policies is directly linked to one driver of geographic transformation. Institutions that bring about common national standards in public services and spatial blindness in human development outcomes can accelerate the pace of people moving toward prospering places. Ensuring basic services everywhere is beneficial for both spatial efficiency and equity. Physically connecting lagging and leading areas with better infrastructure can reduce the costs of transport and increase the movement of products. But ensuring spatial equity in transport coverage can be spatially inefficient if networks are extended to places with few people and there is little demand for transport services. The challenge is in identifying specific investments that improve spatial equity, while not offsetting gains from economic efficiency. Finally, targeted interventions may be needed to change the economic structure of places not picked by market forces, especially if there are severe barriers to the mobility of products and people. But should targeted policies focus on providing incentives to relocate economic activities from where they are concentrated to less dense areas, or should they be concerned about improving the way land changes its uses and users? The rest of this report addresses these questions, using the framework of the WDR 2009 to prioritize how policies can be calibrated to the scale of the challenge of integration facing different areas.

3.1 A PORTFOLIO OF SPATIALLY SHARP POLICIES

66. This section identifies where specific investments will generate the highest payoff for economic efficiency and spatial equity as well as the main considerations for effectively implementing specific policies. Several criteria could allocate public investment across leading and lagging areas. Investment resources could be allocated on the basis of need, with the objective to compensate for the disadvantages of poor regions. In this case, regions with low incomes would receive more investment—though richer regions might also demand more resources to meet needs stemming from congestion. Resources could be allocated on the basis of efficiency, to maximize national income. In this case, regions with a higher rate of return on investment would receive more. Or, resources could be distributed on the basis of equal allocation across regions, regardless of need or efficiency. The assessment of policy options takes these issues into consideration.

3.1.1 BASIC SERVICES EVERYWHERE

67. Moving is most often costly, difficult, and disruptive. Those who move—from villages to towns, between towns and cities, and from lagging to leading areas—are those who have the best opportunities of recouping costs once they are settled in their new location or those who face extraordinarily poor opportunities for themselves or their children in their current locations.³⁹ In terms of labor mobility, broad coverage of adequate basic education and health services serves two important purposes. First, it helps improve the quality of migration. Second, by providing education, health, and social services in economically lagging areas, governments can begin to act on the reasons households are pushed to migrate. Both adequate education and health service coverage enhance the likelihood that migration occurs as a matter of choice, not by force. Labor mobility that concentrates people and talent in locations of choice will contribute more to agglomeration benefits than to congestion. For these reasons, the bedrock of any public policy aimed at facilitating labor movement and agglomeration should be a spatially blind provision of basic public services, especially education and health.

3.1.1.1 EDUCATION ACCESS AND QUALITY

68. As discussed in chapter 1, past policies have been remarkably successful in geographically balancing access to education services. The current challenge is to improve the quality of education in lagging areas and develop skills that help people access opportunities in a transforming economy. Almost 30 percent of students fail courses in their first language and in mathematics in grade 8, and 50 percent fail English. And this performance is worst in Northern and Eastern provinces. Improving the quality and relevance of education will provide people in lagging areas with the ability to enter labor markets in dynamic places. The payoff to education is higher in Western Province, and facilitating labor mobility will contribute to further reduction in national poverty. How can education outcomes become spatially blind?

69. Education services are delivered through a network of providers. The Ministry of Education (MoE) is responsible for operational policies in general education. It administers the national schools, which make up 3 percent of total public schools, 18 percent of total public enrollment, and 15 percent of the teachers. The provincial councils administer the remaining schools. Provincial councils develop education plans and budgets, and employ and deploy education administrators, principals, and teachers at the provincial level. Zonal education authorities transfer and deploy principals and teachers within zones.

70. Sri Lanka has a large and geographically dispersed network of 9,700 public schools with 205,000 teachers. The average school size is about 400 students, with remote districts in the Northern and Eastern provinces having fewer than 250 students per school and with Western Province more than 600. A composite indicator of accessibility developed by the MoE suggests that accessibility is best in Western Province, followed by Southern Province; it is worst in Northern and Eastern provinces. Accessibility to more than 50 percent of schools in Northern and Eastern provinces is classified as “difficult” or “very difficult.” The education system in the Northern and Eastern provinces needs priority support to reduce spatial disparities in education opportunities.

71. Significant differences exist in the comprehensiveness of educational services offered. Schools are differentiated by type (in declining order of services provided): National schools; Navodya schools; Type 1AB schools (with advanced level science stream classes); Type 1C schools (with advanced level arts and/or commerce streams, but no science stream); Type 2 schools (with classes only to grade 11); and Type 3 schools (with classes only to grade 5 or 8). About 50 percent of students are enrolled in provincial 1AB and 1C schools. About 30 percent are enrolled in Type 2 schools, and 10 percent in Type 3 schools (these students are considered unlikely to complete secondary and junior secondary school). The proportion of Type 2 and Type 3 schools are highest in populous regions such as the Western and North Western Provinces; by contrast, 50 percent of National school enrollment is in the Western and Southern provinces.⁴⁰

72. Teaching inputs also vary across locations. Sri Lanka averages 30 students for each trained teacher, higher than the ratio of 25 identified in OECD’s Program for International Student Assessment as optimal for learning outcomes for 15 year olds.⁴¹ While all provinces have an undersupply of trained teachers, the problem is most acute in Western Province, where there are 36 students for each trained teacher. In addition, Sri Lankan students do not have enough teaching materials. The scarcity of teaching material is particularly acute in rural and estate sector schools. Sri Lanka needs to increase investment in educational material over time, in line with trends in more advanced middle-income countries such as Malaysia and Thailand.

73. Improving teacher quality is a challenge, considering that salaries for teachers in the public sector are low and that the private sector has a limited role in providing education services. A survey across countries shows that Sri Lanka’s salary range for teachers is one of the lowest. The starting salary of a primary school teacher, adjusted for purchasing power, is less than 50 percent of the World Education Indicators average. Sri Lanka also has limited private participation in education. Private schools for grades 1–9 have been restricted since 1960. Although since 1990 a private university-level institution could be established, the size of the private higher education sector is still underdeveloped.

Currently, there are 93 private schools educating fewer than 3 percent of students, and growth has been modest. Most enrollments in private schools are in Colombo (50 percent) and in Gampaha (15 percent).⁴²

74. Improving the quality of education involves making resource allocation choices. Expenditures for general education (primary and secondary) increased by only 10 percent between 2005 and 2008 (in nominal terms) , while expenditures in tertiary education increased by 7 percent during the same period (table 3.1). Sri Lanka under-invests in education by international standards. Over time, the country needs to increase investment in education by attracting more private investors and by raising public investment.

75. A benefit-incidence analysis was carried out to examine how public expenditures in education benefit the poor compared with the rich, and between lagging and leading areas. The analysis draws on province-level data on recurrent expenditures on education and enrollment rates that are merged with household data from the HIES 2006-07. Data on education expenditures are based on estimates from this study and disaggregated by level of education using criteria in World Bank (2005b). The benefit-incidence analysis

Table 3.1: Public spending on education by level and providers (Rs. million)

Agency and level of education	2005	2006	2007	2008a
General education	40,499	46,275	52,057	45,008
Ministry of Education	13,396	13,653	16,988	13,114
Department of Examinations	594	717	665	851
Department of Education Publications	10	10	16	34
Provincial councils	26,499	31,895	34,388	31,009
Tertiary education	10,092	8,768	9,423	10,778
National Education Commission	12	21	31	49
Total expenditures ^b	51,745	68,293	63,792	58,583
Provincial councils share (%)	51.2	46.7	53.9	52.9
Education expenditures (% of GDP)	3.1	3.3	2.9	2.5
Education expenditures (% of government expenditures)	7.9	9.3	8.6	7.7

a Provisional figures for 2008.

b Assistance in education is not included in the estimates. In 2007, this figure is Rs. 8 billion, and the share of province decreases slightly.

Source: Data are reported in 2002 Rupees. Team calculations based on data from MoE, Ministry of Provincial Council, and local government. Budget estimates and Central Bank.

Figure 3.1: Are public expenditures in education spatially equitable?



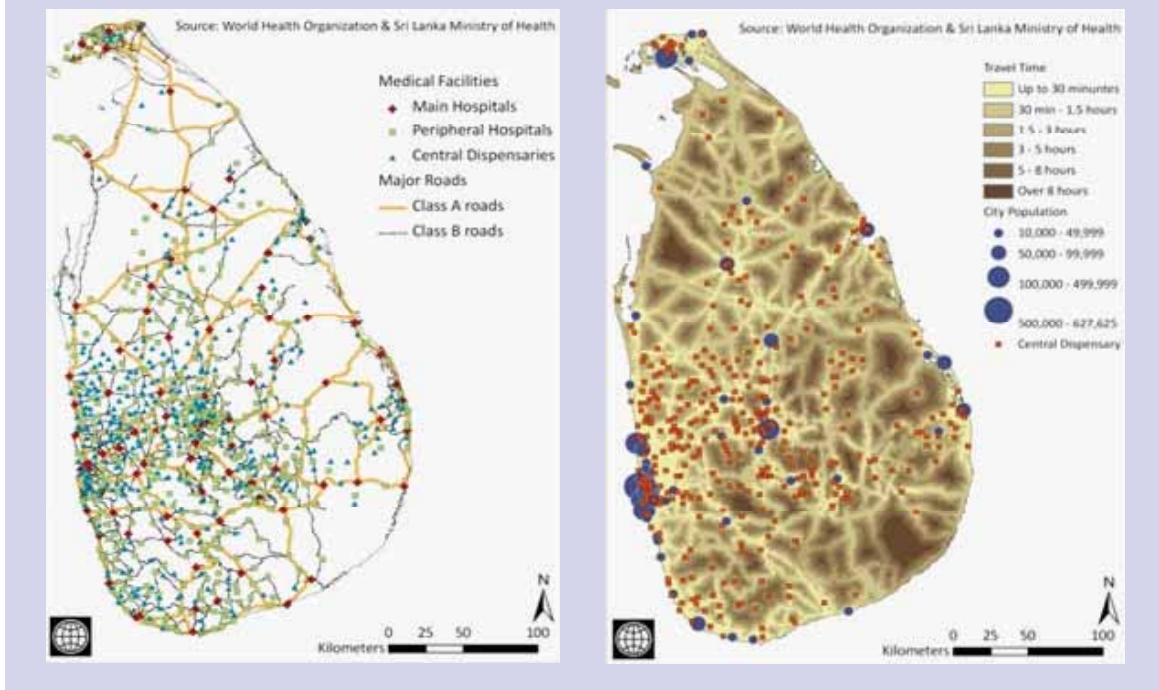
Source: Hon 2009 background paper for this report.

shows that primary and secondary education subsidies were pro-poor in all provinces outside Western Province (figure 3.1). Furthermore, the poorest 20 percent benefited more from subsidies to primary education compared with subsidies to secondary education. In contrast, a higher share of subsidies for senior secondary and tertiary education benefits the rich, both in leading and lagging areas. This evidence is similar to countries such as Brazil. In other countries where the private sector is present in university education in a substantial way, those who can afford to pay can opt to send their children to private universities. In Sri Lanka the private sector needs to be encouraged to expand its involvement in higher education, with the state making arrangements for quality assurance.

3.1.1.2 QUALITY OF HEALTH SERVICES

76. Universal coverage of basic health services is necessary for long-term development. Public health care in Sri Lanka is provided primarily by the Ministry of Healthcare and Nutrition and the provincial councils. Major municipalities provide limited services. The public health care system consists of a network of 610 hospitals, and 418 central dispensaries and maternity homes throughout the country.⁴³ Most Sri Lankans have access to a health facility within 30 minutes of where they live (figure 3.2) and are within 1.4 kilometers of a basic health clinic and 4.8 kilometers of a government-sponsored free health care facility.⁴⁴

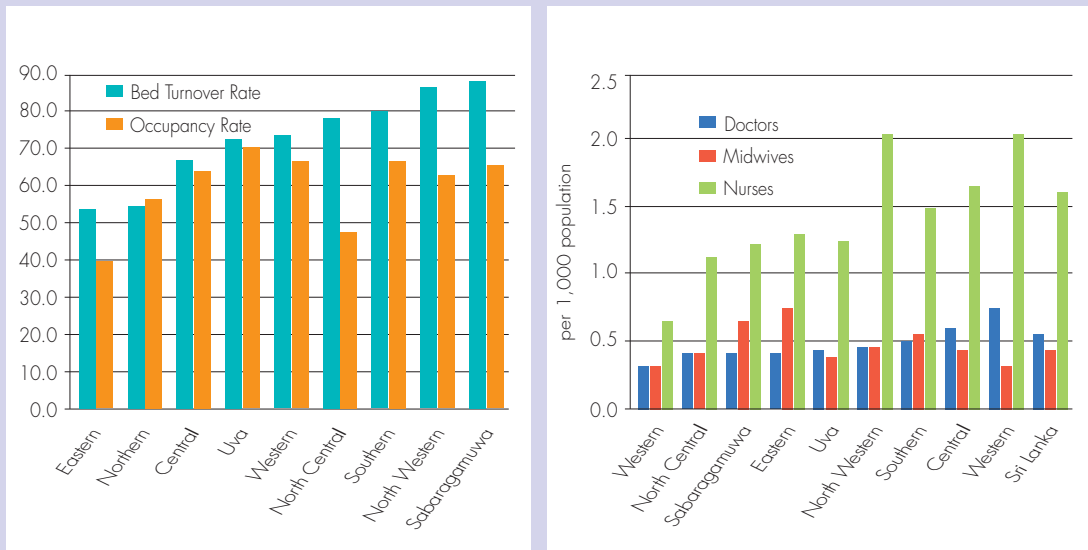
Figure 3.2: Access to health facilities



77. Sri Lanka's health service coverage is impressive. Its 3.4 beds per 1,000 people is high compared with other middle-income countries, with little variation across areas. But services are often underused. The average bed occupancy ratio is 60 percent, significantly lower than the 80–85 percent suggested by international healthcare advocates. Underuse is particularly severe in the Eastern, Northern, and North Central provinces (figure 3.3). Part of the reason is variation in the distribution of key health personnel. Mullativu and Killinochi in Northern Province have the lowest health personnel-to-population ratio for doctors, midwives, and nurses; Colombo has the highest. By contrast, the average bed-turnover ratio of 80 percent is at the level of international norms, suggesting that Sri Lanka is efficient in servicing inpatients. Yet the ratio varies significantly, from less than 60 percent in Eastern and Northern provinces to 90 percent in North Western and Sabaragamuwa provinces.

78. Medical facilities are provided through a multi-tiered system. The tertiary tier which consists of higher level hospitals (teaching hospitals and special hospitals) provide specialist care and general medical services including inpatient care, investigative and laboratory services, long term clinic care and outpatient care. Secondary level hospitals (Provincial and District General Hospitals and Base Hospitals) have fewer specialists and also provide inpatient care, selected investigative services, long term clinic care and outpatient care. Primary care facilities (Divisional Hospitals, Central dispensaries, maternity homes), are only staffed with general medical officers.⁴⁵ All tertiary level

Figure 3.3: Many health facilities are underutilized, partly due to shortage of health personnel



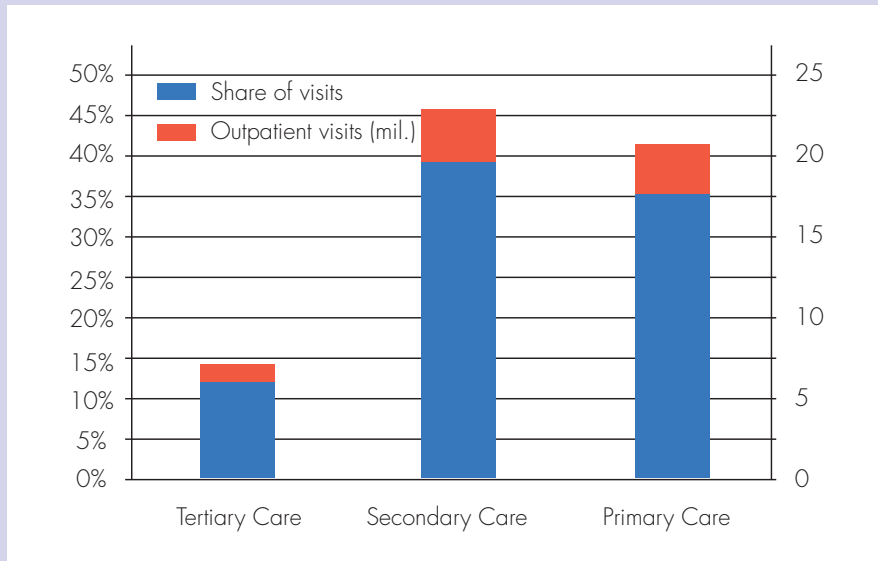
Source: Ministry of Health, annual health bulletin 2007.

hospitals are managed by the Central MOHN while the majority of second tier facilities are run by provincial councils.⁴⁶

79. All lower level primary care facilities are provincially run. In addition to the services provided through the medical facilities, preventive health services are provided by a geographically demarcated Medical Officer of Health Areas. All (324 in 2007) such preventive health units are managed by the respective provincial councils. These units are staffed by field based preventive health staff consisting of Public Health Inspectors, Public Health Nursing Sisters, Public Health Midwives, School Dental Therapists, and field officers, providing maternal and child health, family planning services, occupational and environmental health services, school health and dental services.⁴⁷ Outpatient care is primarily provided through outpatient departments in hospitals. The public system accounts for 95 percent of inpatient admissions and 60 percent of outpatient visits and nearly 100 percent preventive health services.⁴⁸

80. Services are often underused in the secondary tier of hospitals run by provincial councils. Patients often have the perception that they should seek the highest possible level of care, leading them to bypass these hospitals and facilities to seek care directly at nationally run hospitals because they provide free services including more specialist services. For example, 90 percent of babies are delivered in the higher level facilities under specialist care, with more than a third in teaching hospitals. Fewer than 5 percent are delivered in maternity homes or divisional hospitals.⁴⁹ People often bypass primary

Figure 3.4: Many people bypass primary care facilities for basic outpatient visits



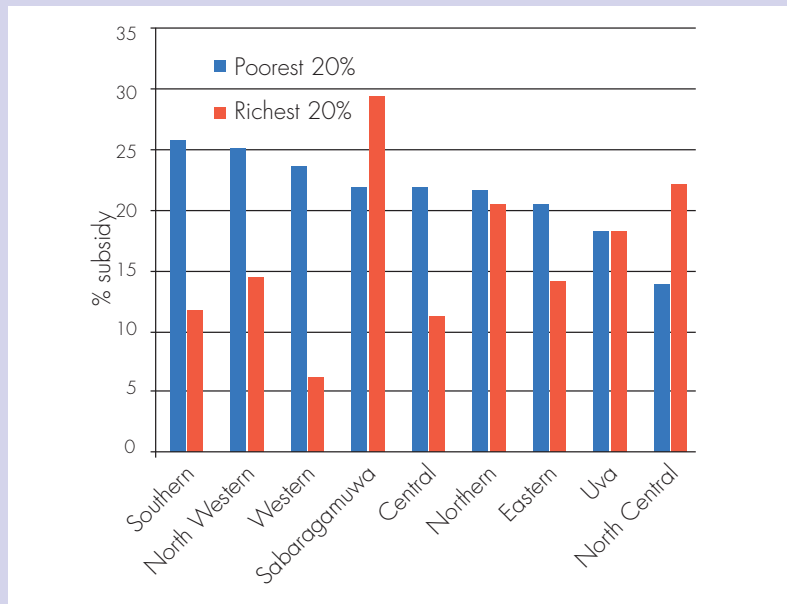
Source: Annual health Bulletin 2007.

care facilities for outpatient visits (figure 3.4). For instance, while there were 17.6 million outpatient visits to primary care facilities in 2007, 19.4 million outpatient visits were recorded in secondary care facilities. In addition, there were 5.8 million outpatient visits to tertiary care facilities.

81. Facilities in remote areas also find it difficult to retain specialist doctors, general medical officers and nurses. This is partly because personnel tend to apply for centres in the Western Province as they progress in seniority within the sector. The prospects of supplementary income from practicing in the many private clinics and hospitals, as well as consumer amenities such as better schools are among the contributory factors. About 50 percent of the 8,650 private hospital beds are available in Colombo; the rest are distributed across Kandy, Galle, Kurunegala, and Anuradhapura districts.⁵⁰ While a third of these clinics are operated by full-time private general practitioners, the rest are staffed by government medical doctors who are permitted to conduct private practice only in their off-duty hours.

82. The current health system has many areas where efficiency can be improved and potentially reduce healthcare system costs. Excess demand has resulted in overcrowding and long waiting lines in higher level hospitals. But health services are quite equitable because poor people can seek care at any facility free-of-charge. A benefit-incidence analysis across people and provinces highlights that health subsidies are pro-poor, particularly for hospital outpatient services (see box 3.1). Across the country, the

Figure 3.5: Health subsidies are pro poor



Source: Hon 2009, background paper for this report.

poorest 20 percent received their fair share of health subsidies; and the richest 20 percent received 17 percent of subsidies. This picture however varies considerably across provinces. Western Province is the most pro-poor. Twenty-five percent of subsidies went to the poorest 20 percent, and 5 percent to the richest (figure 3.5). By contrast, Sabaragamuwa's richest 20 percent received 30 percent of the subsidies. But the poorest 20 percent in Sabaragamuwa are less worse-off than in North Central Province, where the poor received less than 15 percent of health subsidies. In summary, this analysis suggests that while health services are geographically dispersed and reach the poor, there are significant inefficiencies due to underutilization of facilities.

3.1.2 PHYSICALLY CONNECTING LAGGING AND LEADING AREAS

83. The government's strategy for national development as outlined in the Mahinda Chintanya, considers improvements in infrastructure of paramount importance to reduce transport prices and improve the physical connectivity of peripheral and isolated areas. The centerpiece of the strategy consists of investments that improve infrastructure across the country—roads, railways, telecommunications, and ports. While increasing spatial equity in coverage of durable infrastructure is appealing, such decisions need to be grounded in an assessment of how these improvements can improve accessibility of peripheral areas and whether alternate improvements have a higher likelihood of improving accessibility as well as performance of the entire network. Thus, can strategic investments generate win wins for both spatial equity and economic efficiency?

Box 3.1: Spatial benefit incidence of health subsidies

In 2002, Sri Lanka established a system of national health accounts that provides comprehensive data on expenditures by source of funds, provider, function, and province. The Sri Lanka National Health Accounts complies with the statistical standard for health accounts developed by the OECD and includes both public and private expenditures. Indeed, Sri Lanka is one of the few low middle-income countries with this capacity.

Micro data from the Central Bank's Consumer Finances and Socio-Economic Survey Report were used to estimate public healthcare use across individuals by income quintiles. That report was used for the following reasons. First, use of health services was available (that is, self-medication, inpatient or outpatient, and source of treatment; public, private, traditional, or western) along with a measure of living standards. Second, the report distinguished between public and private care. Third, it included data on location by province. Fourth, a 14-day recall period for healthcare use was long enough to produce a sufficient sample of observed users. The living standard measurements were the adult equivalent per capita consumption of expenditure. Combining the use rates and the living standard measurements obtained above with public health expenditure estimates from the national health accounts, the subsidies by location, service, and quintile were calculated.

Source: Hon 2009, background paper for this report

84. The analysis of transport prices discussed in the previous chapter is used to inform these choices by simulating the implications of alternate road improvements. These simulations illustrate the utility of spatially explicit tools in differentiating the potential benefits of targeted investments in lagging areas relative to those that improve connectivity among places with demonstrated economic potential and large local markets. These simulations do not provide a blueprint for developing a comprehensive operational road investment program, which would require a more detailed study that would look at the interplay of different modes of transport (e.g. rail) as well as consider multiple objectives that are being addressed with transport policies. These objectives may include improving accessibility to basic services such as schools, clinics, and local markets.

85. The simulation exercise builds on the approach used by government road departments or international agencies, which use economic rate of return models considering the economic impact of a potential road improvement on the cost of vehicles traversing that particular road segment, or on economic impacts of cities and towns immediately "upstream" or "downstream" from the improved road segment.⁵¹ The methodology used here considers network-wide impacts of improving specific transport corridors, explicitly accounting for the effects of transport demand and congestion on transport prices. Reductions in transport prices in one location can come from investments made in another as well as policies that enhance competition in the transport services market. The approach is described below:

- a. A “baseline” estimate of average transport prices for each DSD was simulated first assuming no change to the 2008 Sri Lankan Class A and B road network. The results for each subsequent scenario were evaluated in comparison to this baseline estimate.
- b. The largest city in each DSD was used as the starting point, and transport routes to Colombo were calculated using a least-cost path algorithm and optimizing the route to minimize the transport/congestion cost variable. The “least-cost” pathway through the road network, minimizing travel-times as a function of road quality, capacity and topography, was re-estimated for each simulated scenario (reflecting road network changes).
- c. Using the new routes based on the simulated road network improvements, aggregate and per kilometer values per route for the H, D, C and HD parameters were recalculated for each DSD (section 2.3).
- d. Using these updated values for the explanatory variables, the values for transport prices from Colombo to each DSD were predicted out-of-sample based on the parameter estimates from regression model in the previous chapter.
- e. While these predicted prices have significant spatial variations across the country, they do not tell us what is actually being spent on transport on a daily or annual basis. For that we need to consider transport volume, which varies tremendously depending on the route and city. Consequently, the simulated average transport price per kilometer for each scenario, for each DSD, was multiplied by the corresponding traffic volume (ADT). This provides a measure of daily expenditures on transport for each DSD for each scenario, which is the main parameter for examining aggregate benefits of alternate improvements.

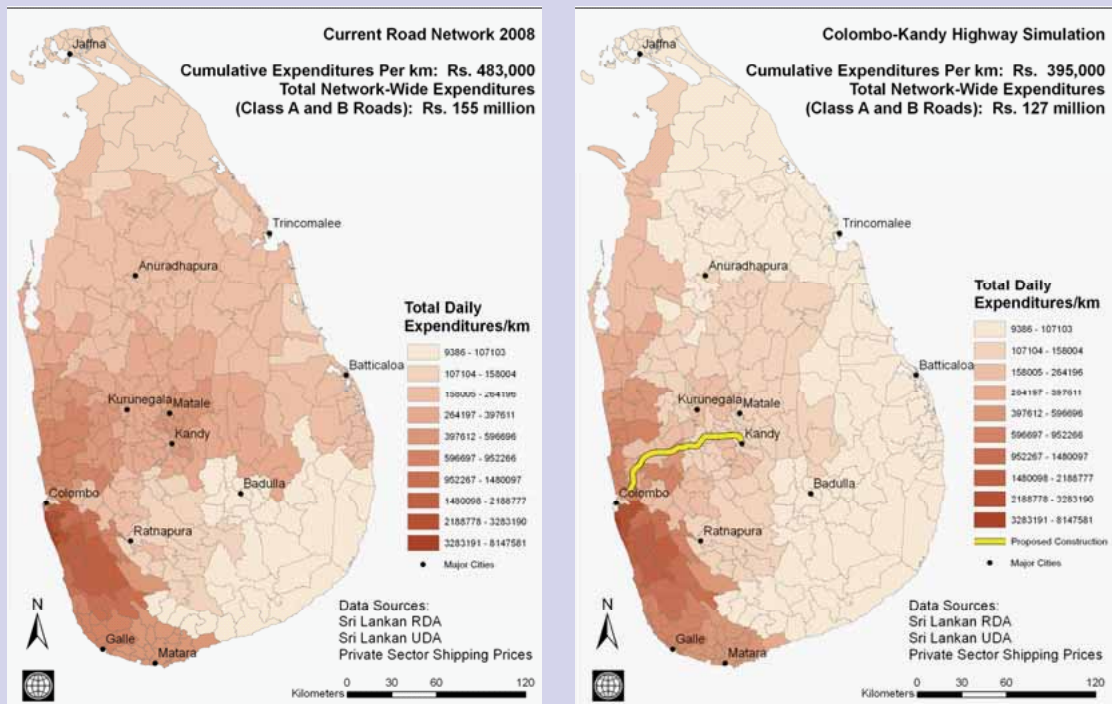
86. The simulations consider implications in terms of transport prices resulting from a selected number of road improvements proposed by the Road Development Authority (RDA). Road improvements for each scenario were physically created or upgraded using a GIS. Estimates of travel times on those segments (as a function of road quality, topography, and number of lanes) were adjusted to reflect their future improved status. New traffic volumes along those new or improved routes were estimated by multiplying current traffic volumes times a scalar in the case of improved road segments, and by estimating volumes on new road segments by spatial interpolation of volumes from nearby routes of similar quality and number of lanes. Each simulation derives network-wide effects beyond the immediate area of their upgrade or construction. For example, the Colombo–Kandy Expressway will also reduce transport prices along roads crossed by the expressway. The following road improvements /constructions were simulated:

- **Baseline scenario: Current (2008) Road Network.** Network-wide transport expenditures are computed using the current network of A and B class roads.⁵²
- **Scenario 1: Colombo Outer Ring Road.** Because of Colombo's unique position in Sri Lanka, handling 95 percent of Sri Lankan imports and exports, roads providing access to Colombo port are crucial in managing countrywide transport prices. The RDA has proposed building an outer road (ring road) of 30 kilometers through the periphery of the greater Colombo metropolitan area to handle heavy city congestion and to cater to the extremely high shipping volumes in and out of Colombo.
- **Scenario 2: Colombo–Katunayake Highway.** This major highway upgrade stretches 26 kilometers from Colombo to Katunayake. Given Colombo's high congestion and transport volumes, this project is seen as a way to improve most of the traffic and shipping heading north.
- **Scenario 3: Kandy Expressway.** The RDA has proposed a major new expressway—completely new road construction—running parallel to the existing road linking Colombo with Kandy. A massive investment, the expressway would greatly improve road connectivity between the two largest economic urban centers in Sri Lanka, which would almost certainly be needed to meet the growing shipping volume and traffic between these economic centers.
- **Scenario 4: Katunayake–Anuradhapura Expressway.** The RDA has proposed an improvement in the connectivity between Colombo and the north of Sri Lanka. This new highway features 65 kilometers stretching north from Katunayake, and then 80 kilometers of highway upgrades to Anuradhapura.
- **Scenario 5: Southern Highway.** Like the Kandy Expressway, this new highway stretches south from Colombo to Matara. This new highway will travel through very high traffic volume areas, linking Colombo to the south of Sri Lanka.
- **Scenario 6: Improve Connectivity to Poor Areas.** This scenario is not proposed by RDAs, but is included here to simulate the effects of linking some of the poorest areas in the country (Uva Province) with the intermediate hub in Kandy.
- **Scenario 7: Upgrade High Traffic Volume Areas.** This scenario upgrades the highest traffic volume areas in Sri Lanka, particularly the Colombo metropolitan region. Scenarios 1 and 2 are complemented by additional upgrades near Kandy and in the Batticaloa area, which includes 30 kilometers of new road construction and 209 kilometers of upgraded road.

3.1.2.1 ASSESSMENT OF ALTERNATIVE SCENARIOS

87. For each simulated road improvement described above, the simulations measure the savings in transport expenditures relative to the baseline with no improvements. Transport expenditures are calculated as the sum of transport prices times volumes across all segments in the road network. Total transport expenditures in the base-line case are illustrated in the left panel figure 3.6, which are estimated at Rs. 155 million per day across Sri Lanka’s network of A and B class roads. As expected, aggregate transport expenditures are highest around Colombo. This is due to a combination of relatively high transport prices per kilometer from inadequate infrastructure and congestion, and high traffic volumes which means that a large number of vehicles face these costs. The right panel in figure 3.6 shows total transport costs after the construction of the Colombo-Kandy highway, which the model predicts would result in large reductions in aggregate transport expenditures. Island-wide expenditures on transport will decline from Rs. 155 million a day to Rs. 127 million, a reduction of Rs. 28 million.

Figure 3.6: Simulated network-wide change in total transport expenditures from the construction of the Colombo-Kandy Expressway



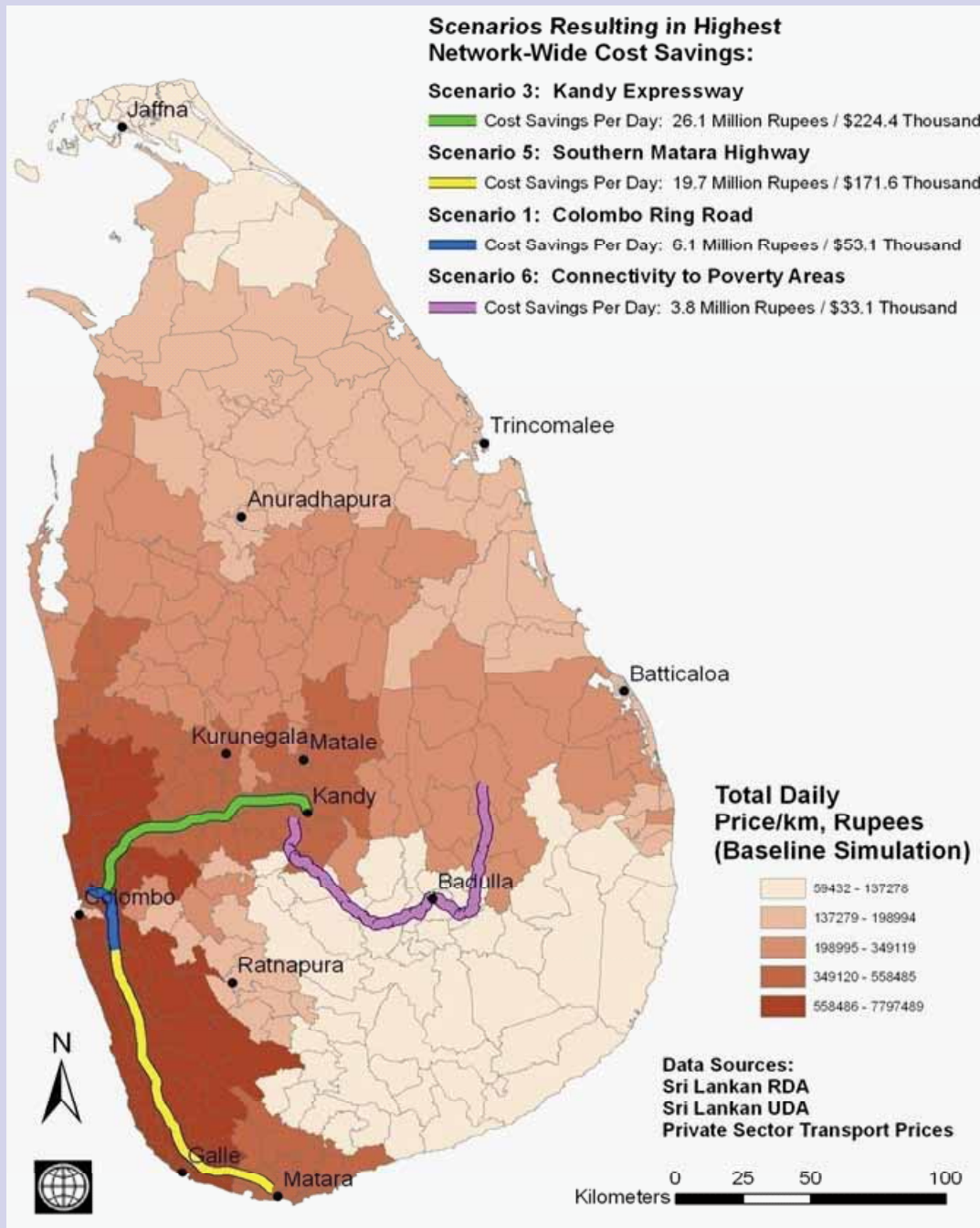
Source: World Bank staff calculations, see Felkner, Lall and Masakorala (2009);

Note: The routing of the proposed Colombo-Kandy Highway is purely illustrative.

88. Simulations of the remaining 5 proposed road improvements suggest that the Southern Highway, which is already under construction, has the second largest impact on total transport expenditures, which is reduced by Rs. 20 million per day. In comparison, upgrading roads in major cities (high-traffic areas) provides the greatest return in terms of reducing network-wide transport costs per kilometer. But they do not generate the highest reductions in overall expenditures on transport. For example, the model estimates that upgrading roads in large cities such as the Colombo outer ring road will reduce transport costs by Rs 10 per km, but daily transport expenditures only reduce by Rs. 6 million. It is however, the third best option for reducing overall transport expenditures. These options are shown in figure 3.7. The limited performance of upgrading roads in major cities (high-traffic areas) has more to do with traffic volumes, which are the highest along the Colombo-Kandy and Southern corridors. As a consequence, smaller unit price reductions can translate into larger savings on what consumers pay for transporting products. Similarly, the road from Badulla to Kandy (poor-area connectivity) also fares well in reducing costs per kilometer, but connects a small transport market. So, overall reductions in transport expenditures are small.

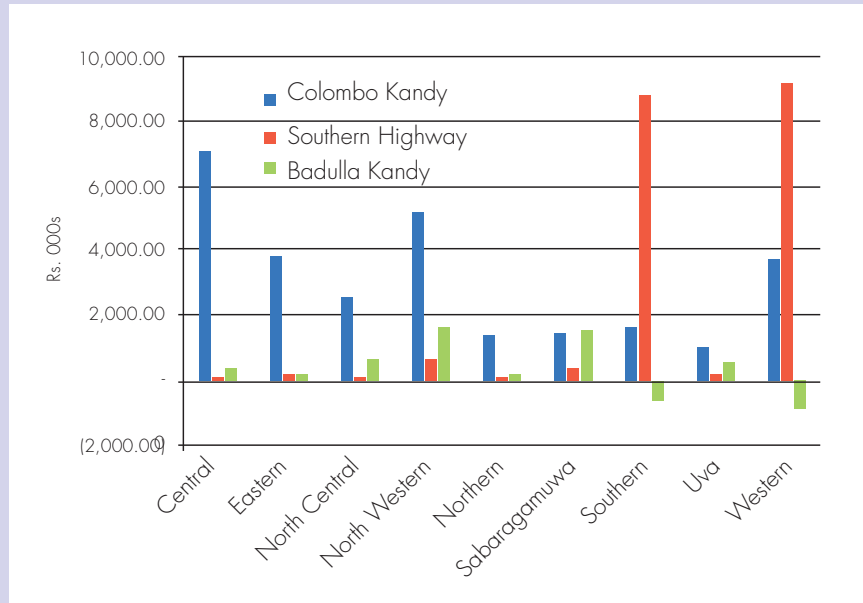
89. Which transport improvements can benefit poor areas the most? One of the main insights from the analysis is that transport expenditures in poor areas can be reduced by improving market access in intermediate areas, rather than in the poorest and remotest areas. Of course, improving transport connections between Kandy and Colombo directly benefits a large number of poor people because the central province has a high concentration of poor people. The simulations suggest that the Colombo-Kandy expressway can reduce transport costs in the province by Rs. 22 per kilometer resulting in overall transport savings of Rs. 7 million per day. In fact, this link effectively connects “mountains of poverty” to “peaks of prosperity” (figure 2 in executive summary and figure 3.8). Equally important, is that the Colombo–Kandy Expressway not only reduces transport expenditures in Central Province, it also reduces daily transport expenditures in the Eastern, North Western, and Uva provinces by Rs. 3.8 million, Rs. 5.1 million, and Rs. 1 million, respectively. In contrast, the hypothetical Badulla–Kandy road improvement reduces daily transport expenditures in Uva Province by only Rs. 580,000. Clearly, the Colombo–Kandy Expressway, linking Western Province with Central Province, is a win-win situation for economic efficiency and spatial equity (figure 3.8).

Figure 3.7: Transport expenditure savings from simulated road improvements



Source: Staff estimates based on data from RDA and survey of transport prices. Details in Felkner, Lall and Masakarola 2009. Routings are purely illustrative.

Figure 3.8: Province specific transport expenditure savings of alternate road improvements “not only does the Colombo-Kandy Expressway reduce transport costs island-wide, it connects the most poor people to prosperity”



Source: Staff estimates, based on RDA data.

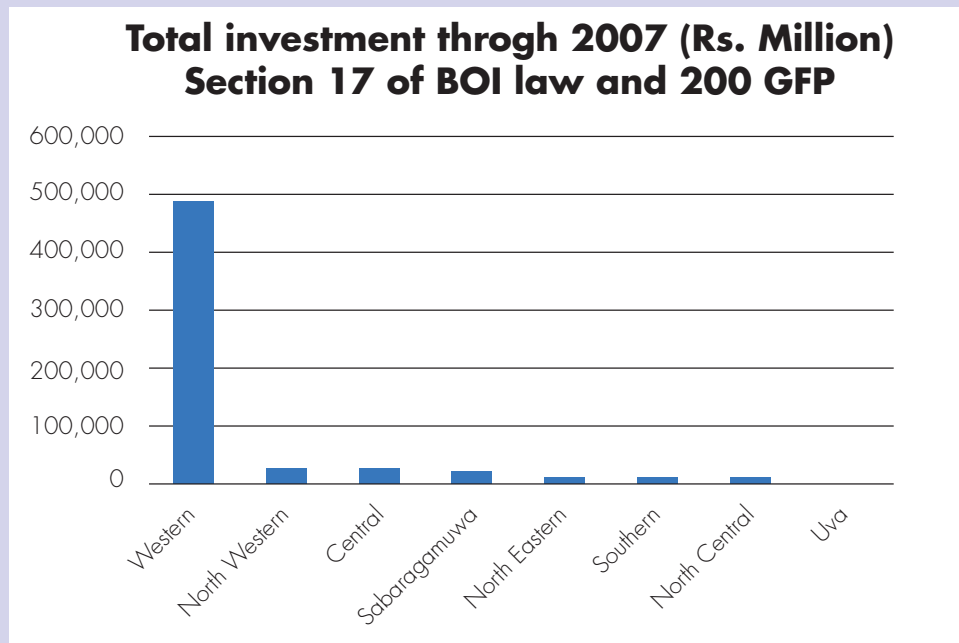
3.1.3 TARGETED INTERVENTIONS IN SELECTED CASES

90. When countries face divisions caused by ethnolinguistic or religious heterogeneity, the forces of factor mobility are weakened even across relatively short distances. Spatially focused interventions may need to complement institutions and infrastructure to encourage economic production in lagging areas. The Northern and Eastern provinces of Sri Lanka have emerged from decades of conflict, which slowed the voluntary movement of labor and dampened interregional trade. As these provinces integrate with the rest of the country, the need for common institutions will be critical. But targeted interventions will also be needed to overcome historical divisions. Separating what works from what does not is important for improving the effectiveness and efficiency of targeted policies. Section 2.1 showed that improving the fluidity of agrarian land markets is central for economic transformation and poverty reduction in lagging areas. But can targeted interventions increase the pace of transformation, particularly in Eastern and Northern provinces?

3.1.3.1 INDUSTRY RELOCATION INCENTIVES

91. Targeted interventions today aim at relocating economic activities from the concentrated Western Province to lagging areas throughout the country. They run the risk, however, of slowing economic progress because workers and firms earn higher returns when located close to the international gateway and similar businesses. As firms value gains from proximity, few are taking up relocation incentives. Incentives are offered by many government agencies such as the Ministry of Finance (MoF), Board of Investment (BOI), Export Development Board (EDB), Ministry of Industries (Mol), and other line ministries. In many cases, implementing agencies do not coordinate their programs and inadvertently offset the efforts of their counterparts.

Figure 3.9: Western Province dominated the location of investments



Source: BOI of Sri Lanka (MIS-27-Apr-09).

92. Consider the BOI, which operates as an autonomous statutory body directly responsible to the President, with a Board of Directors of eminent officials from the private and public sectors. Regulations framed under Section 17 of the BOI Law grant specific incentives to new and existing enterprises satisfying specific eligibility criteria, which currently include tax holidays, concessionary corporate income tax rates, generous depreciation allowances, and import duty and excise exemptions.⁵³ These incentives usually include exemptions covering income tax, customs duty, and foreign exchange

controls. While the BOI currently offers spatially targeted incentives to stimulate growth in lagging areas, its initial mandate was to use incentives as instruments of national economic development and attract foreign direct investment (FDI) into economic processing zones (EPZs), based mostly in Western Province. EPZs, such as Katunayaka and Biyagama, have grown over the last few decades in number of zones, employment, and share of exports.

93. Evaluation of BOI and 200 Garment Factory Programme (GFP) under the projects approved shows that Western Province dominated the location of private investment (figure 3.9). At the end 2007, Western Province had attracted the highest volume of investment, and generated the most jobs and exports. Overall, total investment in Western Province was valued at Rs. 484 billion, with service infrastructure contributing Rs. 333 billion. Exports of Rs. 460 billion along with 300,000 jobs were created with the support of BOI's incentive programs. 32,500 of these jobs came from the 200 GFP. The second highest number of incentives was in neighboring North Western Province (Rs. 29 billion), of which nonmetallic products contributed Rs. 11 billion. Total export value was about Rs. 40 billion, of which textile, wearing, apparel and leather products contributed Rs. 29 billion with Rs. 5 billion from the GFP. And 39,512 jobs were created under these incentives, including 16,051 under the GFP. But these incentives have not attracted investors to the country's lagging areas. New investments attributable to these incentives are only Rs. 3 billion in Uva Province and Rs. 13 billion in Northern and Eastern provinces, and even those were concentrated in the urban areas of Ampara and Trincomalee.

94. Incentives under the 300 Enterprise Development Programme, or "Nipayum Sri Lanka," a flagship program established in 2006 to support rural employment creation in lagging areas, are disproportionately used at the edge of Western Province, not in remote areas. Sectors are identified and prioritized based on comparative advantage, and depending on the conditions of each province—nondifficult, difficult, and most difficult—incentives are adjusted to accommodate location-specific political and economic risks (BOI Annual Report 2007).

95. This program attracted 153 projects through the end of 2007.⁵⁴ Foreign investment of Rs. 20 billion and domestic investments of Rs. 24 billion have been approved. Most of these projects specialize in agricultural value added and in apparel, expecting to generate 44,000 jobs. While these developments may appear promising for industrial deconcentration, a closer look at the geographic distribution of investments tells a different story. Investments of more than Rs. 21 billion were approved in North Western Province, which lies at the border of Western Province. While industry location may be influenced by incentives, these favor places that help producers maintain favorable access to markets and their suppliers. These incentives have decentralized private investment to remote locations.

96. The limited success in attracting firms to lagging areas is partly due to relocation costs that are higher than the benefits of staying in larger, often congested agglomerations. Many firms reported being locked in spatially, depending on nearby firms, for information on business processes, regulations, and hiring practices. And being in a larger agglomeration provided access to a pool of qualified workers and business services not easily available in peripheral areas. Rather than offering incentives to “push” industry to lagging areas, policymakers should invest in information to identify what investors perceive as opportunities and constraints to help sharpen the impacts of targeted incentives.

97. Public policies are starting to recognize that economic growth will be unbalanced. The national physical plan (NPP) takes into account that higher value economic activities will be geographically concentrated and identifies five metro areas that are likely to become economic engines in the next 20 years (see box 3.2). However, the NPP does not provide guidance on why and how economic growth will pick up in these areas. It may be useful to invest in information to identify area specific sources of comparative advantage (see next section).

3.1.3.2 KNOW THY ECONOMY—INVESTING IN INFORMATION

98. Improving the function of agrarian land markets provides a starting point to facilitate economic transformation in lagging areas, but additional efforts may be needed in areas where the costs of economic distance are compounded by internal divisions. Eastern Province is one such area. It was ravaged by civil war for more than 20 years, and its coastal regions devastated by the 2004 tsunami. Annex 1 provides some details on the Negenahira Udanaya (Eastern Revival), the main government program to integrate Eastern Province economically with the rest of the country. The economic future of Eastern Province is unlikely to be in industrial manufactures. Even historically, manufactures have not been an important part of the local economy. By contrast, there are considerable opportunities for increasing agricultural production and enhancing links with nonfarm activities. A promising prospect is the readiness, even eagerness, of two big agribusiness firms, Chemical Industries Colombo PLC (CIC) and Hayleys, to expand operations in Eastern Province (see Rodrigo 2009 for details). They are keen to acquire and deploy large-scale best-practice technologies. These include silo fabrication, grain drying, milk processing, and other food-processing technologies that could raise output, productivity, and product range while reducing spoilage. The efforts of such firms have a high probability of success because of the accumulated experience they bring to food processing, marketing, and exporting.

Box 3.2: The National Physical Plan

In 1997, the Presidential Task Force studying urbanization recommended that a National Physical Plan (NPP) be developed for Sri Lanka. In 2000, a high-level National Physical Planning Council (NPPC) chaired by the President was established to guide and eventually operationalize the NPP through an amendment to the Town and Country Planning Ordinance No. 13 of 1946. The NPP was completed in 2007, and approved by the NPPC on July 3 2007. The stated objectives of the NPP are to (i) protect the environment, (ii) ensure that all Sri Lankans live in areas safe from natural disasters, (iii) create a strong network of cities, towns and villages (iv) provide infrastructure facilities, (v) and balance production and protection.

Consistent with the argument in this report, the NPP explicitly recognizes that economic development is inevitably going to be geographically unbalanced. Higher value added economic activities have a “natural” tendency to concentrate. The NPP calls these areas “Metro Regions” and identifies five such areas (see box map). The NPP projects that Sri Lanka will see rapid urbanization in the coming 20 years. It is projected that 70 percent of Sri Lankans will live in urban areas by 2030, of which 80 percent will live in the five metro cities and smaller district capitals. Some urban areas are projected to experience explosive population growth. For example, the population in the city of Hambantota is expected to reach 1 million by 2030. In the 2001 census the population was recorded at about 21,000. Conversely, the NPP projects that the population of Kandy one of the few areas with concentration of economic activity outside the Western Province (see box map) will shrink between now and 2030.



However, the NPP does not assess the drivers of demographic and economic transformation. For example it is not clear whether and why the Trincomalee-Anuradhapura-Dambulla (TAD) triangle will eventually have the same density as Colombo. The reported population numbers suggest rapid convergence as the TAD triangle is expected to have 4 million people by 2030 compared to Colombo’s projected 5 million people. And the NPP does not identify the economic factors driving this rapid concentration. This may limit the extent to which the NPP can be used as a guide for prioritizing infrastructure investments. As argued elsewhere in this report the general lesson from international experience is that policy makers should leave it to firms and households to decide where to locate production and live, while focusing public policies on facilitating the pace with which transformations take place.

Source: Report team based on National Physical Plan

99. CIC, through its subsidiary CIC Agribusiness (Pvt) Ltd., has launched a joint venture with state-owned Mahaweli Livestock Enterprises to establish milk processing facilities at Welikanda and Punani. With an investment of Rs. 550 million, the objective is to produce 10,000 liters of milk per day and move into value-added products (yogurt, cheese, and so forth) within two years. CIC is also engaging in a banana exporting project near Kantale River in Eastern Province in partnership with a leading Japanese fruit supplier. The investment, worth Rs. 500 million, will develop 15,000 acres of land and is expected to generate Rs. 5 billion in export earnings annually, primarily to markets in Europe, the United States, and the Middle East and Gulf states.

100. Hayleys, a major conglomerate, has since the late 1950s been a supplier of agricultural inputs. It is also a major exporter of agricultural products and some manufactures. Hayleys has maintained its presence in Eastern Province through its wide extension network; it trains farmers in crop protection, fertilizer, and machinery use, and provides seed paddy. A pilot project, supported by USAID, gherkins, jalapeno peppers, and pineapple on 50 hectares. Hayleys is planning to extend this project to 650 hectares in former conflict areas around Batticaloa, Amparai, and Bibile. It also plans to set up model farms and negotiate buy-back arrangements with other private producers, entering 50–50 investment sharing deals. Hayleys has a matching grant of \$6 million for this project. Some produce will be developed into final products for external markets, following a value-chain analysis. It does not expect to move up the value chain for the local market; instead, produce will be sold to Cargills, a leading domestic retailer.

101. There is a long tradition of fishing in Eastern Province. In the 1980s–90s, a third of families in the province engaged in fishing. Until the mid-1980s, itinerant fishermen from other parts of the country controlled the marine fishing market. They came to Eastern Province during the southwest monsoon and used local labor. With increasing use of mechanized craft, which makes all-season fishing possible, this practice declined. Today, the sector is divided broadly into marine fishing and inland fishing, which includes aquaculture of high-value fish, such as prawns in fresh and brackish water. Marine fishing is separated into coastal fishing and deep-sea off-shore fishing, in which vessels venture out to sea for many days at the time. In recent years, marine fishing of all kinds in Eastern Province has been severely curtailed for security reasons. Fishermen are allowed out for a few hours a day, mostly at times not conducive for effective fishing. This situation is still prevalent. Because of this restriction, marine fishing has declined significantly from its high of 255,000 metric tons in 2002.

102. What are the operational implications for designing and implementing targeted interventions? International evidence and the Sri Lankan experience highlight the following priorities:

- Targeted interventions should not smother market signals on where businesses want to locate and expand production. Policies should support places with demonstrated potential—not divert growth to other locations. This will increase the pace of national economic transformation.
- In places left behind by market forces, policies should create the foundations for economic transformation—by first improving the efficiency with which the same piece of land changes uses and users.
- In lagging areas that suffer from internal division, targeted interventions may be necessary to support economic progress. But these interventions should be based on careful assessment of area-specific natural, human, and infrastructure endowments, and should not inadvertently offset gains from common institutions.

3.2 TAILORING POLICIES TO AREA SPECIFIC CHALLENGES

103. Policies for economic integration can connect between people in lagging areas with prospering places. But the integration challenge is not the same for all areas in Sri Lanka. A taxonomy can be created by using the spatial dimensions of distance, density, and division to characterize different areas (see box 1.1, p. 2), to focus on how Sri Lanka can tailor integration policies to the challenges faced by different areas. In some places, the density of people in lagging areas, particularly the poor, can compound the challenge of economic distance. In other places, language, ethnicity, or religion may divide one part of a country from another, effectively reducing market forces of migration and interregional trade. How can areas be classified along the dimensions of distance, density, and division?

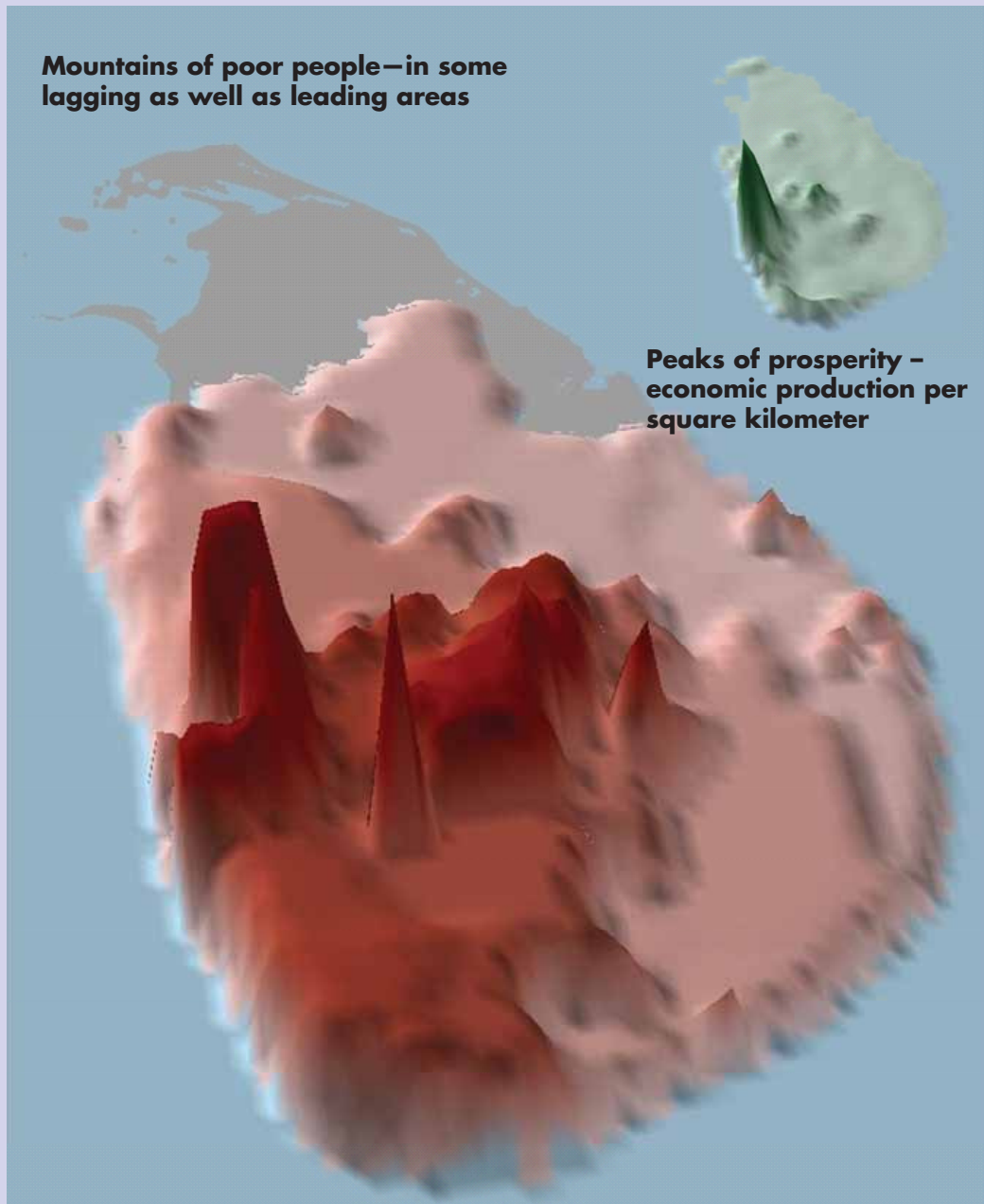
104. WDR 2009 uses poverty maps to calibrate policies to the severity of area-specific integration challenges. These maps can show which places are poor and which have most of the poor. Often, the two are not the same, because the poor have the most reason to move from poor places. Recall the map of where poor people live (figure 5, pg. xiv). It shows that the density of poor people in Sri Lanka is greatest in Western Province, not in lagging areas. While per capita income (consumption expenditures) was Rs. 6,935 in 2006, 471,000 poor people, or 17 percent of the nation's poor, lived in Western Province. The poverty map uses data from the 2006/7 HIES and shows that there were 121 poor people per square kilometer in Western Province—the highest density of poor people in the country. Figure 3.10 presents a three dimensional representation of the poverty map in figure 5, showing that there are mountains of poor people in the country's leading area. And the map on the top right corner of the figure shows the concentration of economic production per square kilometer of land. Clearly,

many poor people are connected to the “peaks of prosperity” in Western Province. But what about lagging areas?

- Uva, North Central, and North Western provinces have lower densities of poor people and a small share of the country’s poor (figure 5, figure 3.10). For instance, North Central Province has 16 poor people per square kilometer (6 percent of the nation’s poor), while Uva Province has 40 per square kilometer (12.3 percent of the nation’s poor). In these areas, the integration challenge is primarily one of overcoming economic distance. Measures to enhance migration should be the mainstay of policies that connect people to prospering places. Economic distance between lagging and leading areas can be addressed mainly by improving spatially blind outcomes in education and health services. By investing in portable assets, policies can help people move toward opportunity.
- Central, Sabargamuwa, and Southern provinces have a larger share of the country’s poor, but there are few impediments to their mobility. Indeed, Central Province is home to 100 poor people per square kilometer, and 20.4 percent of the nation’s poor. The integration challenge in these provinces is overcoming economic distance and misplaced densities of poor people who are far from prosperity. Although migration will aid spatial efficiency and equity, this could take a long time because of the large numbers of the poor in lagging areas. In addition to mobility enhancing portable assets, infrastructure improvements are also needed to improve connectivity to leading areas. Infrastructure projects, such as the Colombo–Kandy Expressway and Southern Matara Highway, can reduce transport costs and increase interregional trade. Improving the movement of people and products will be needed to connect people with prospering places.
- Eastern and Northern provinces do not contain a large share of the country’s poor, but domestic divisions have limited the movement of labor and exchange of products, resulting from conflict that has ended only in recent months. Improving health and education outcomes is critical, but this needs to be accompanied by institutions that improve the functioning of agrarian land markets and targeted interventions to help farmers develop market linkages. In this case, targeted policies are needed in the short to medium term to bring prosperity to people living in these areas.

105. Table 3.2 summarizes policy options for economic integration using a calibrated combination of institutions, infrastructure, and interventions.

Figure 3.10: Priorities for connecting people to prosperity—overcoming challenges of economic distance, misplaced densities, and internal divisions



Source: Poverty data: HIES 2006–07; GDP: World Bank Development Research Group's spatial analysis team based on sub-national GDP estimates

3.2.1 SUMMARIZING PRIORITIES

106. Delivering basic services everywhere is a priority because it accelerates economic progress and connects people in lagging areas with prospering places. By enabling people to seek economic opportunities and leveling the geography of basic living standards, these policies can become the sharpest instruments for unifying Sri Lanka. Past policies have done an impressive job in ensuring spatially equitable access to basic services, including education and health. In the future, the challenge will be to improve service quality in economically depressed areas. In education, rather than expanding schools in remote areas, it may be worth considering consolidation in places where enrollments are low and to use the resulting cost savings for much-needed teaching materials. There is no doubt that tertiary education is important for national transformation, but higher education subsidies disproportionately benefit rich families in Western Province. From the perspective of spatial efficiency and economic integration, it may be best to encourage private sector participation in the provision of tertiary education.

107. In health, coverage is fairly uniform across provinces, and by middle-income country standards Sri Lanka has an excess supply of hospital beds. However, services are underutilized in the network of hospitals run by provincial councils—people often bypass lower level facilities to seek care at nationally run hospitals. Health facilities in remote areas also find it difficult to attract high-quality doctors and nurses, partly because highly qualified personnel are drawn to Western Province with prospects of supplementary income from practicing in private clinics and hospitals.

108. In lagging areas with high densities, such as the Central, Sabargamuwa, and Southern provinces, there is considerable potential to augment common institutions with better transport links that help local economies benefit from economies of specialization and scale. The analysis reported here shows that transport improvements such as the Colombo–Kandy Expressway can reduce island-wide expenditures on transport by 20 percent. And this investment is a win-win for both economic efficiency and spatial equity, because it can generate higher cost savings in lagging areas—Uva, Eastern, and Northern provinces—compared with poor area-specific investments.

109. In lagging areas, such as Eastern and Northern provinces, where factor mobility has been restricted due to internal divisions, targeted interventions may be needed to stimulate geographic and economic transformations. But these incentives need to be preceded by institutional reforms that improve the fluidity of agrarian land markets, making land tradable between uses and users. And the design of interventions should be guided by information on local endowments and the understanding of what investors see as opportunities and constraints in converting endowments into profitable ventures.

110. By making efforts along these dimensions, policymakers can help in unifying Sri Lanka. What policymakers will notice is that while the geography of production will become further unbalanced, the geography of living standards will become flatter. This transformation will accelerate economic growth and enhance social harmony.

Table 3.2: An instrument per dimension—priorities for connecting people to prosperity

	Sparsely populated lagging areas	Densely populated lagging areas	Sparsely populated lagging areas with domestic divisions
Provinces	Uva, North Central, North Western	Central, Sabaragamuwa, Southern	Eastern, Northern
Dimensions of the integration challenge	Economic distance (1-D)	Economic distance High population densities in lagging areas (2-D)	Economic distance Internal divisions (2-D)
What policies should Facilitate	Labor and capital mobility	Labor and capital mobility Market integration for goods and services	Labor and capital mobility Selected economic activities in lagging areas
Policy priorities			
Spatially blind institutions	Improving health and education outcomes, safe water supply and sanitation	Improving health and education outcomes, safe water supply, and sanitation	Improving health and education outcomes, safe water supply, and sanitation Improving the efficiency of land use and conversion
Spatially connective infrastructure		Improving connectivity with the Colombo metropolitan area	
Spatially targeted Interventions			Incentives to agriculture and agro-based industry Amplify market linkages Do not force activities out of the Colombo metropolitan area

Source: Report team: Sri Lanka—connecting people to prosperity.