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The Lacking Issue: What is Missing from El Rama – Kukra Hill Highway Project

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Abstract. The improvement of road infrastructure in areas of low economic development is one of the mechanisms used to reduce poverty. However, the literature establishes that other conditions or complementary measures are necessary for a correct use of these projects. An example of poor use of road resources is Kukra Hill, where the unequal distribution of benefits originated from the El Rama - Kukra Hill Highway Project affects families with low purchasing power. The conclusions obtained from this research are applicable to the rural sector of other developing countries, making contributions to the study of development projects in favor of the most vulnerable sector of the population.

Key words. Development economics; Kukra Hill; Poverty reduction; Documentary; Highway project

1. Kukra Hill, a land of mixtures

Kukra Hill is located 415 km from Managua, the capital of Nicaragua. It is integrated into South Caribbean Coast Autonomous Region of the country as a regional municipality, a category granted in 1989. It has a territory of 1,262 km² and a population of 9,984 inhabitants approximately.

It was originally inhabited by the Kukra ethnic group, belonging to the Uluas, who also were established in the Pearl Lagoon basin and Corn Island. In 1860 the Mosquito Coast was created on the Atlantic Coast of Nicaragua, by agreement between the English and North American governments, being the territory of Kukra Hill integrated into it. The Kukras were absorbed by the ruling Miskito in the late 19th century.

The population has multiethnic composition, with the majority being Mixed-race, followed by Creole, Miskito, Garifuna and finally the Rama. It has been estimated that 97.2% of people are under impoverished living conditions. Its inhabitants are mostly rural; the only semi-urban concentration is in the municipal seat (MTI, 2017). However, the lack of updated data depicts the information management problems.

According to a study made by Pineda & Pedroza (2016), more than thirty years ago in Kukra Hill used to be planted enough food for people to eat. However, after the entry of companies that cultivate African palm, people began to grow the products demanded by large corporations to sell them their harvest, leaving aside the basic grains production, affecting the food availability for the inhabitants.

As there were not enough resources generated in the same community, the trade of goods brought from other municipalities and even from the capital became popular. This market has created a group of intermediaries who monopolize the distribution of goods and give them the power of impose prices on families with a low purchasing power.

The main reason these intermediaries claims for high fees is the difficulty to travel from Kukra Hill to other parts of the country. To a trip, already long-lasting due to the remote location of the municipality, was added the deplorable state of the road that connects Kukra Hill with the rest of the country, which consumed a great amount of resources such as time, gasoline or electricity, depreciation of vehicles, etc. – elements reflected into the fare of the passage.

However, after years with the project under development, in 2020 the construction of the El Rama – Kukra Hill Highway was completed, carried out by the Government of Nicaragua and the Central American Bank for Economic Integration (CABEI). Despite the fact that the residents of this area were looking forward to the conclusion of the project, due to changes that were scheming for the development of the community as a result of its construction, the existence of this highway is a fact to which they have not adapted.

2. El Rama – Kukra Hill Highway

2.1 Project background

The construction of the highway corresponded to a part of Nicaragua's Human Development Plan (PNDH, by its acronym in Spanish) for the period 2012-2016. In the plan was contemplated the Integral Development of the Caribbean Coast, and had as central objective the poverty reduction in Nicaragua (MTI, 2017, p. 2).

Highway construction is part of the Economic Infrastructure Program, where the fulfilment of development objectives is mentioned as the main purpose. It allows access to production centers at lower economic and social costs, as well as improvements in connectivity and community mobilization (GRUN, 2012, p. 65). The development axes to which this program belongs are:

- 1) Increase socioeconomic welfare for the Caribbean population.
- 2) Equitable, sustainable and harmonious economic transformation.
- 3) Strengthening of autonomous institutions to achieve human development.

The justification of the project is based on the cultural, economic and social isolation from the rest of the country that the Caribbean Coast suffers (MTI, 2017); where a causality between isolation and lack of investment, infrastructure, limited coverage of basic services and a weak institutional framework can be defined.

It was also argued that the poor conditions of the drainage structures and the loss of granular material from the rolling surface, reduced the capacity of the road. Finally, the characteristics of potential tourism and livestock development in the area were highlighted.

2.2 Project details and justification

Table 1
Project summarize

Objetives	Road components	Estimate (Millions)
Connect the municipalities of Kukra Hill and Pearl Lagoon by land with Bluefields and the rest of the country.	<ul style="list-style-type: none"> The Rama-Kukra Hill road improvement, 54.2 km of hydraulic concrete. Kukra Hill-Pearl Lagoon Junction, 5.0 km (see fig. 1). 	<p>Amount US\$ 90.25</p> <p>Source <i>BCIE</i> US\$ 83.11</p> <p><i>Government of Nicaragua</i> US\$ 0.58</p>
Approval 01/01/2015		
Completion 31/12/2018		
Benefit population 32,451 residents		

Note: The amount of investment extracted from the National Public Investment System (SNIP) was converted at the official exchange rate of 2/03/2021 (NIO 34.9399 = 1 dollar).

Source: Study team based on data from SNIP, INIDE, MTI and corresponding municipalities.

Figure 1
El Rama – Kukra Hill Highway Project



Source: Study team based on MTI (2017)

Figure 2
Construction of bridges on El Rama – Kukra Hill Highway Project



Source: Santa Fe Group

3. The lacking issue

The improvement of rural roads is widely recognized as a fundamental condition for the development of rural areas. Although it is often assumed that investment in such rural roads reduces poverty, there are few analyzes that support this hypothesis. There still remain significant gaps in knowledge about how the opportunities provided by roads actually generate results in households and their distributional consequences in the community (Bakht & Koolwa, 2006).

Improved roads and infrastructure can create opportunities for economic growth and poverty reduction through a range of mechanisms. Roads reduce transportation costs and the costs of consumption and production of goods and services (BIDS, 2004). There is even a classification of the benefits derived from this improvement, presented in the following table:

Table 2
Direct and indirect benefits of road improvement

Direct benefits	Indirect benefits
Employment in construction and maintenance of the infrastructure.	Improvement in the conditions and opportunities in trade of goods and services.
Environmental impact.	Reduction of input prices and opening of new markets.
Institutional responsibility.	Access to new health and education services.

Source: Study team based on Hettige (2006)

Although these *costs of consumption and production of goods and services* have indeed been reduced, this has had no effect on the price charged to the inhabitants of Kukra Hill. For

example: *Ex-ante*, the traders sold food (such as basic grains) with 20 percent more of the original price, clothing with 30 to 50 percent more, and domestic appliances with up to 60 percent. *Ex-post*, it remains the same. This means that the profit margin generated by the new highway only benefits the trade monopoly (Quijano, 2021).

One of the peaks in the trade of goods is the back-to-school season, at the beginning of every year, where sales of school supplies and uniforms generates great profits for the previously mentioned traders (Quijano, 2021). However, a fixed percentage of profit on products whose prices are increasing, makes the cost of education higher – a not very motivating outlook for low-income families. So, the educational area, one of the *pillars of society*, is unfazed by the opportunities that a road improvement offers.

In (ADB, 2001), it is stated that the relationship between rural road investments, spontaneous private sector transport provision, and availability of cheaper transport services relied heavily on the competitiveness of the transport markets. However, in the case of Kukra Hill, the transport sector is another to highlight when it comes to monopolies benefiting from the project that is being addressed in this report. The tariff of passages charged before the construction of the highway was not reduced after its official opening, but was maintained. Currently, the fare to the capital Managua is around 320 Nicaraguan cordobas (C\$320)¹; which, if the price of returning to Kukra Hill is considered, almost reaches 11 percent of the salary of a public school-local teacher² (Powell, 2021).

Making an overview of Kukra Hill's precarious health system, which condition has last for years, it is clear that the right topic to address immediately after the completion of the road had to be the demanded need for a municipal hospital. Currently there is only one healthcare center with little medical resources. During the wave of COVID-19 infections that swept through Kukra Hill, many died without knowing what illness they had; and those who could afford the ticket, went to the hospital of Bluefields, the closest one – located 139 km away (Powell, 2021).

Considering the information collected, it is logical to declare that *the lacking issue* in the project is the focus on poverty reduction, a condition under which more than 90 percent of the Kukra Hill population lives. The existing impression is that the road can be a catalyst for the community's economic growth and this, sooner or later, will lead to poverty reduction.

It can be assumed that the crisis originated a few years ago by socio-political events and aggravated by the global pandemic have caused the delay and even cancellation of programs from the government focused on the poverty situation and the unequal distribution of benefits. However, the initial impulse generated in the population after the opening of the new road is a valuable resource that can be used to encourage the residents of the municipality to not only wait for the change to arrive, but to generate it themselves.

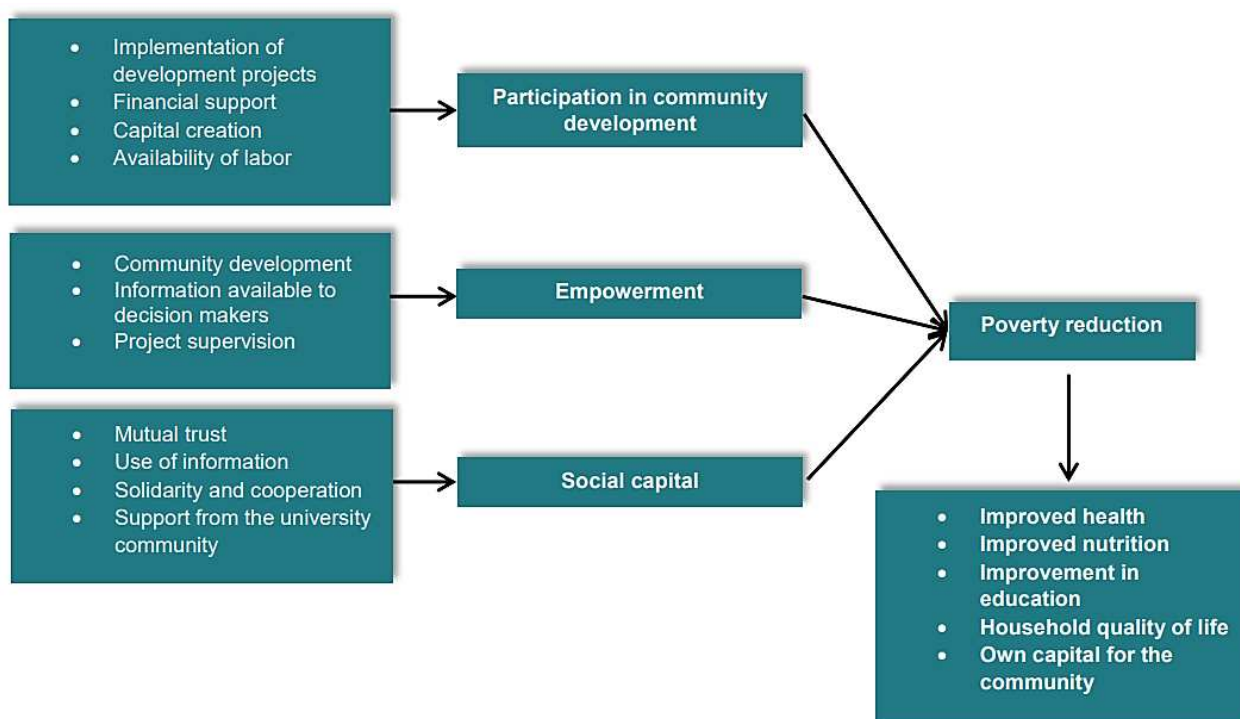
¹ 9,1521 US dollars, approximately (currency conversion on March 15, 2021).

² 6,000 Nicaraguan cordobas; 171,6021 US dollars, approximately (currency conversion on March 15, 2021).

4. Conclusions

Based on the literature review from other projects carried out in rural areas, and the perception of changes occurred in Kukra Hill in recent months, it can be concluded that road construction is a necessary but not sufficient condition to mitigate poverty, since actions that exploit the benefit of road access are essential. It is also required a priori and a posteriori evaluation of this type of project to assess whether it is having the expected impact or not. These ideas proposed in research are applicable to the rural sector of other developing countries, making contributions to the study of development projects in favor of the most vulnerable sector of the population.

Figure 3
Conclusions



Source: Study team based on the literature review

5. Bibliographic references

- Asian Development Bank. (2001). *Paving the way to poverty reduction through Breaking the cycle of poverty through better roads*. Asian Development Bank. Retrieved from: <http://hdl.handle.net/11540/5451>
- Bangladesh Institute of Development Studies (2004). *Poverty Impact of Rural Roads and Markets Improvement and Maintenance Project of Bangladesh*. Mimeo, Bangladesh Institute of Development Studies.
- Fujimura, M., & Edwards, D. (2001). Handbook for Integrating Poverty Impact Assessment in the Economic Analysis of Projects.
- GRUN. (2012). *Plan Nacional de Desarrollo Humano*. 2012-2016. Managua, Nicaragua: GRUN. Retrieved from: <http://www.pndh.gob.ni/documentos/pndhActualizado/pndh.pdf>
- Khandker, Shahidur R.; Bakht, Zaid; Koolwal, Gayatri B.. 2006. The Poverty Impact of Rural Roads : Evidence from Bangladesh. Policy Research Working Paper; No. 3875. World Bank, Washington, DC.
- Hettige, H. (2006). *When do rural roads benefit the poor and how?: an in-depth analysis based on case studies*. Philippines: Asian Development Bank.
- Mhiliwa, J. A. (2015). *The effects of school distance on students' academic performance: A case of community secondary schools in Makambako Town Council* (Doctoral dissertation, The Open University Of Tanzania).
- MTI. (2017, september). *Valoración ambiental social del proyecto mejoramiento del empalme Kukra Hill-Kukra Hill 5 km*. Managua, Nicaragua: Ministerio de Transporte e Infraestructura.
- Muhammad, Z., Jonathan, Z., Johar, F., & Majid, R. M. (2016). *A structural equation model of improvement in quality of life in a Community-Based development projects in Nigeria*. Environment-Behaviour Proceedings Journal, 1(4), 23-33.
- Pedroza Pacheco, M., Pineda Whitaker, A. (2018). *Seguridad alimentaria nutricional según percepción en hogares de Kukra Hill, Región Autónoma de la Costa Caribe Sur, Nicaragua*. Retrieved from: <https://repositorio.unan.edu.ni/6309/1/290-1048-1-PB.pdf>
- Powell, M. (14 of March, 2021). *Interview with a Kukra Hill seller*. (L. Angulo, Interviewer).
- Quijano, X. (14 of March, 2021). *Interview with a Kukra Hill trader*. (L. Angulo, Interviewer).

WFP. (2018, May). *Safety Nets Alert Platform: Methodological note on how to simulate the impact of a shock*. World Food Programme. Retrieved from: <https://snap.vam.wfp.org/main/>

Annexes

Figure 1
Streets of Kukra Hill (Before and after)



Source: Photography by Argenis Murillo

Figure 2
Kukra Hill



Source: Photography by Argenis Murillo