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14. ABSTRACT

In Mexico, individuals who attain a high school diploma acquire "the key to the door" of upward social mobility. Mexican governmental policies and goals highlight the combatting of poverty as a top priority. However, inequities exist within the Mexican education system between those living in urban areas and those living in rural areas. Rural areas are generally characterized as having higher poverty, lower income, and lower quality education. In order to effectively combat poverty, the Mexican Government must sell education to the rural area and set the conditions educationally within those areas. The Mexican government must answer five basic marketing questions in tailoring an educational incentive program focused on the rural area poor. To sell the "product-education" to the "target consumer - rural poor" the government must address the inequalities in the system by applying the factors of quality, accessibility, affordability, and opportunity within the business marketing framework (the four "Ps" – product, price, promotion, and place). By applying, enhancing, or revamping educational incentives and programs in rural areas, the government will provide an avenue to a better life and a way out of poverty for the rural poor.

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Rural Education in Mexico: A gateway to a better life

By

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LTC, United States Army

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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28 October 2011

Contents

List of Figures

List of Tables

Abstract

Rural Education in Mexico: A gateway to a better life

In Mexico, individuals who attain a high school diploma acquire "the key to the door" of upward social mobility. Mexican governmental policies and goals highlight the combatting of poverty as a top priority. However, inequities exist within the Mexican education system between those living in urban areas and those living in rural areas. Rural areas are generally characterized as having higher poverty, lower income, and lower quality education. In order to effectively combat poverty, the Mexican Government must sell education to the rural area and set the conditions educationally within those areas. The Mexican government must answer five basic marketing questions in tailoring an educational incentive program focused on the rural area poor. To sell the "product-education" to the "target consumer - rural poor" the government must address the inequalities in the system by applying the factors of quality, accessibility, affordability, and opportunity within the business marketing framework (the four "Ps" – product, price, promotion, and place). By applying, enhancing, or revamping educational incentives and programs in rural areas, the government will provide an avenue to a better life and a way out of poverty for the country's most disadvantaged.

INTRODUCTION

> *"Literacy is a bridge from misery to hope. It is a tool for daily life in modern society. It is a bulwark against poverty, and a building block of development…. Literacy is a platform for democratization, and a vehicle for the promotion of cultural and national identity….Literacy is, along with education in general, a basic human right.... Literacy is, finally, the road to human progress and the means through which every man, woman and child can realize his or her full potential….Acquiring literacy is an empowering process, enabling millions to enjoy access to knowledge and information which broadens horizons, increases opportunities and creates alternatives for building a better life."*
>
> – Kofi Annan, Thinexist.com, 2001

In a Time Magazine interview on 26 November, 2006, Mexico's President Felipe Calderon discussed three priorities: combatting poverty, creating jobs, and improving public security. Regarding poverty, he explained creating a public policy consensus, in education and health, which will allow him to move ahead quickly with the budgetary support from Congress.[1] In Mexico, a high school education separates those who have any hope for a decent life and those who live in or near poverty.[2] "Educationally, rural areas in Mexico lag well behind urban ones. On average, the rural population is educated to a lower standard despite having greater returns to education at every level of schooling."[3] Therefore, the implementation of a "rural area" education incentive program, designed to increase poor children attainment of a high school diploma will reduce inequality in urban and rural area education and provide an opportunity for the poor to achieve a better station in life.

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[1] Felipe Calderon, interview with Time Magazine, www.TIME.com, November 26, 2006, (Accessed October 14, 2011), http://www.time.com/time/printout/0,8816,1558317,00.html.
[2] Earl Shorris, *The Life and Times of Mexico*. New York: W.W. Norton & Company, 2004, 547.
[3] Juan Luis Ordaz-Diaz, "The Economic Returns to Education in Mexico: A Comparison between Urban and Rural Ares," Cepal Review 96, December 2008: 279.

BACKGROUND

In contrast to Mexican urban areas, the rural landscape is marred with low income, high poverty, and a lower quality education.[4] The Mexican rural population represents 22% (approximately 24 million people)[5] of the total population and within this rural population, since 60.8% live below the national poverty line as compared to 39.8% within urban areas.[6] The rural area poor represent a "target rich" environment for the implementation of educational incentives to support President Calderon's achievement of his goal. It can also mitigate the inequality between urban and rural area education.

In addressing educational inequality, this paper will relate the factors of quality, accessibility, affordability, and opportunity to the marketing framework (the four "Ps" – product (education), price (affordability), promotion (future benefit), and place (rural areas)) (See Figure 1). The target consumer is the rural poor. Discussion will focus on quadrants I, II, and III only and five questions the Mexican government must answer to effectively implement educational incentive programs in rural areas that support the achievement of national objectives. Quadrant IV requires the poor rural population seeing a return on their educational investment. Therefore, the Mexican Government must set the right economic conditions for the benefits of continued education to pay off in poor rural areas.

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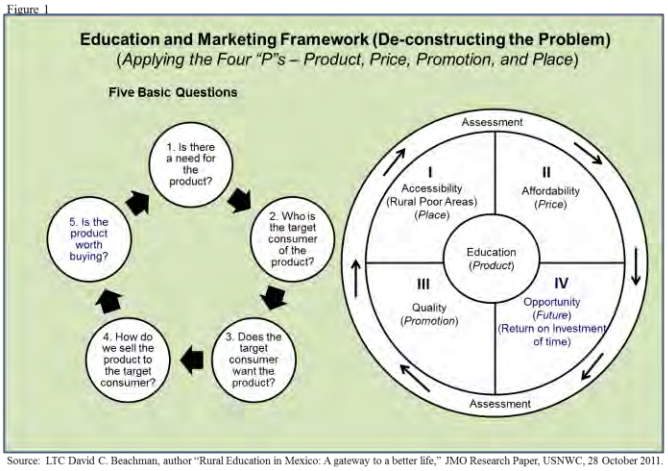
[4] Juan Luis Ordaz-Diaz, "The Economic Returns to Education in Mexico: A Comparison between Urban and Rural Ares," Cepal Review 96, December 2008: 267.
[5] Rural Poverty Portal, "Rural Poverty in Mexico, Last accessed October 27, 2011, http://www.ruralpovertyportal.org/web/guest/country/home/tags/mexico.
[6] United Nations, Official List of MDG Indicators-Unstats, last modified January 15, 2008, http://unstats.un.org/unsd/mdg/host.aspx?content=indicators/officiallist.htm.

Figure 1



Source: LTC David C. Beachman, author "Rural Education in Mexico: A gateway to a better life," JMO Research Paper, USNWC, 28 October 2011.

DEFINITIONS

First, it is important to define certain terminology, e.g- "quality" education. "According to the United Nations Educational, Scientific, and Cultural Organization (UNESCO), quality education must have relevance (meaning), pertinence (practical value), parity, efficiency and effectiveness."[7] Next, "economic return to education is measured as the increase in earnings resulting from each additional year's schooling or the attainment of a certain education levels and is the percentage gain or loss on an investment, which means that the costs of the investment must be considered for this to be calculated. For economic return to education, these costs are the earnings forfeited by studying." [8]

Follow-on discussion will focus on the first basic question and how it relates to accessibility, affordability, and quality (the argument), the third basic question (counter-argument), and the fourth basic question (recommendations). The answer to question two is already determined – the target consumer is the rural poor.

[7] UNESCO, *Educational Panorama 2010: Remaining Challenges* , January 2011, Last accessed October 27, 2011, http://unesdoc.unesco.org/images/0019/001915/191521e.pdf, 40-41.
[8] Juan Luis Ordaz-Diaz, "The Economic Returns to Education in Mexico: A Comparison between Urban and Rural Ares," Cepal Review 96, December 2008: 266.

DISCUSSION

Is there a need for the Mexican government to increase education efforts within the poor rural areas (a need for the product)? In short, yes. Tables I through III (see Appendix Tables) depict data pertaining to illiteracy rates, poverty, and educational attainment as it relates to economic returns on education. The key takeaway from the data is the inequity that exists between urban and rural areas. Rural areas have higher poverty, less education, and higher illiteracy rate. Additionally, economic returns on education are higher in rural areas.[9] To address these deficiencies, the Mexican government must reconcile the gaps created by these inequities as they exist within the factors of accessibility, affordability, and quality of education.

MAKING RURAL EDUCATION ACCESSIBILE

By implementing educational incentives in rural areas, the Mexican government can increase accessibility to education for poor rural students. Accessibility, in the business world, is defined as the extent to which a consumer or user can obtain a good or service at the time it is needed.[10] For the rural poor of Mexico, accessibility boils down to the availability of schools and teachers.

Access to schools is limited in rural areas. "To the rural and isolated indigenous communities within Mexico access to secondary schools is limited. Most indigenous communities do not have local secondary schools and students often have to travel for hours to reach the nearest one. Upper secondary level students need to travel to small towns and

[9] Juan Luis Ordaz-Diaz, "The Economic Returns to Education in Mexico: A Comparison between Urban and Rural Ares," Cepal Review 96, December 2008: 279.
[10] Business Dictionary.com, Last accessed October 27, 2011, http://www.businessdictionary.com/definition/accessibility.html.

larger urban centers to find schools. This puts rural and indigenous students at a disadvantage, since they often have to leave their communities to further their education." [11]

In addition to low school availability, teacher availability is also poor. Rural areas are filled with isolated communities and very small towns, making it difficult to find enough teachers willing to live there.[12] To further compound the problem, things are not much better when teachers are present. "Research conducted on eight schools in Guerrero and Oaxaca found that teachers were in the classroom only about 50 percent of the time (100 days per year). Furthermore, when they were in the classroom, the length of the school day was usually shortened to about two to three hours per day of effective class time."[13]

By implementing teacher incentives and investing in rural area education infrastructure development the Mexican government can make education more accessible to poor rural students. The issue for the Mexican government is not only their ability to sell the product (education) to the rural poor but to be able to push the product to where it is needed - poor rural communities. Therefore, it is a matter of pushing capabilities forward to these areas.

The application of teacher incentives is critical to solving the availability issue. The Mexican government can increase or augment annual salaries for teachers willing to move to rural communities; invest in undergraduate students achieving degrees in teaching by providing federal funding for their education with the assurance that they will go out and teach for a period of time in poor rural areas upon graduation; and promoting hometown teacher recruitment within the undergraduate population to enable recently graduated teachers to return to their communities and teach. The importance of this incentive follows:

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[11] Lucrecia Santibañez, Georges Vernez, Paula Razquin, "Education in Mexico: Challenges and Opportunities," RAND Education, RAND Corporation Document Briefing Series, 2005, http://www.worldfund.org/assets/files/RAND_Education%20in%20Mexico.pdf, 30.
[12] Ibid, 20.
[13] Ibid, 31.

> Sergio Marquez is a young man, with very regular, slightly squared features, more like a jai alai player than a secondary school teacher, and he preened the work of his students as if it were himself. While he opened binder after binder of work, two of the school administrators pointed out that the mechanical drawing teacher had graduated from Calmecac School. When I asked if there were others teachers who had come back to school to teach, the administrators listed five, and all were among the best teachers. Sergio said, "We all live here in Neza too. Every teacher has an obligation to his students. We have dual obligations, because we come from the community.[14]

Educational infrastructure development is also required. First, the Mexican government will need to conduct an assessment within the rural areas to ascertain the proper location for new construction to take place. Funds are not available within the government to provide every community with a high school. One high school serving multiple communities is an option. Second, the Mexican government will need to prioritize based on population numbers within communities and where they can get the biggest return on their investment (in terms of student enrollments). The national objective is to decrease poverty and education is a means to that end. Finally, the location of future construction must compliment this notion and ultimately lead to better accessibility for the disadvantaged rural student. Further reference to infrastructure development will occur during follow-on discussions concerning quality of education.

Implementing teacher incentives to increase instructor availability and creating more schools can make education more accessible for the rural poor. These initiatives alone will

[14] Earl Shorris, *The Life and Times of Mexico*. New York: W.W. Norton & Company, 2004, 553.

not solve the problem. Teachers and schools are but two challenges; the government needs to attract rural students into the classroom. This is directly tied to making education affordable to the rural poor.

MAKING RURAL EDUCATION AFFORDABLE

By implementing educational incentives in rural areas, the Mexican government can reduce the financial burden on rural families by making education affordable. Increasing government spending and expanding financial aid programs will make education more appealing and affordable to the rural poor.

Government spending per student and within rural areas is lacking. "Education accounts for a quarter of public spending and represents the highest share of public spending on education among Organization for Economic Co-operation and Development (OECD) countries. Notwithstanding the proportionally large education budget, spending per student is low by international standards – about a quarter of the OECD average for primary education and a third of the OECD average for secondary education."[15] "The government currently spends about $28 billion yearly on education. On per-student terms, this is equivalent to US $1,350. Spending is lowest in primary school (US $800), then increases for upper secondary ($1,700) and rises sharply for higher education ($4,000). These disparities in the spending pattern across levels of education raise some important equity issues, as only a small section of the population is able to benefit from the higher spending in higher education. In addition, the share of the rural, low-income, or indigenous students (who tend to be among the most disadvantaged) who can benefit from public higher education is low

[15] Library of Congress, Country Profile: Mexico, July 2008, http://lcweb2.loc.gov/frd/cs/profiles/Mexico.pdf, 12.

when compared to populations in urban areas who are relatively better off."[16] "The Mexican government spends four times as much per student in urban areas as it spends for rural (mainly indigenous) students." [17]

Current financial aid program is not achieving desired results. The Mexican government provides financial aid to poor, low-income families through the Oportunidades Program (formerly known as PROGRESA). "The program offers cash to low-income families if the children remain in school and attend regularly. These cash offers equal approximately $40 (USD) per month and come with an associated basket of food staples for the family."[18] This program represents a good start and demonstrates that the government is aware of the need in rural areas. However, the data from Table III (see Appendix Tables) shows there still remains a large disparity between rural and urban area student attainment of a secondary education (over 2 to 1 in favor of the urban area) since the program's inception.

Increasing government spending per student will make education more affordable for the rural poor. If the objective is to combat poverty, with education and the attainment of a high school diploma being the springboard out of poverty, then spending needs to be focused on where it is needed most to achieve the objective. Providing hope and opportunity starts not in the undergraduate level, but in the primary through secondary levels of education. This is where increased investment is needed. Increasing human capital investment in the rural areas focused on enhancing secondary school enrollments and attendance will entice the rural poor to remain in school as opposed to quitting and entering the workforce as common labor.

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[16] Lucrecia Santibañez, Georges Vernez, Paula Razquin, "Education in Mexico: Challenges and Opportunities," RAND Education, RAND Corporation Document Briefing Series, 2005, http://www.worldfund.org/assets/files/RAND_Education%20in%20Mexico.pdf, 12.
[17] Earl Shorris, *The Life and Times of Mexico*. New York: W.W. Norton & Company, 2004. 556.
[18] Joan B. Anderson, "The Effectiveness of Special Interventions in Latin American Public Primary Schools," The Dante B. Fascell North-South Center, University of Miami, May 2002, http://www.revistainterforum.com/english/pdf_en/060302WP5NorthSouthCenter.pdf, 4.

Therefore, increasing government spending will not only affect affordability but it will positively impact accessibility and quality of education for the rural student as well. Further assessment by the Mexican government will need to occur on this topic to determine the proper amount of increase in spending that is required to "turn the tide" and reverse the trend within the rural areas. At a minimum, the Mexican government should spend equal to the OECD average and use this as a starting point for further assessment.

Nongovernment Organizations can assist in curtailing spending costs and alleviating funding inequities between urban and rural areas. The Mexican government can look towards Nongovernment Organizations (NGOs) as a potential source and critical enabler in this endeavor.

Expanding financial aid programs to provide better material and monetary incentives to the rural poor will not only make education more affordable but would also increase school enrollment. The Mexican government must address the challenges residing within the current program (Oportunidades) in order to increase the number of poor students in rural areas attaining a high school diploma, or look for new options or programs to implement. A program the Mexican government can further explore as an option is the school aid program (Bolsa Escola) in Brazil. "The Bolsa Escola program is a school savings program in which the program deposits one annual minimum wage into a savings account for each eligible child on promotion to each new grade. The child may withdraw half of the funds after graduating from eighth grade and receive the balance upon graduation from high school."[19] This program proves promising for Mexico. It provides a monetary incentive for students to

[19] Joan B. Anderson, "The Effectiveness of Special Interventions in Latin American Public Primary Schools," The Dante B. Fascell North-South Center, University of Miami, May 2002, http://www.revistainterforum.com/english/pdf_en/060302WP5NorthSouthCenter.pdf, 4.

stay in school and attain a high school diploma. It also assists in alleviating the financial burden placed on poor, low-income families who rely on what little money the child may bring into the household when not attending school – compensating the student and family for potential income lost while attending school.

Making education more affordable for the rural poor will enable students to attend, resulting in increased enrollment and attendance. Once enrolled, the only thing that will keep them engaged and coming back is the quality of the education they receive as seen through the attainment of better jobs, increased income, and achievement of a better station in life.

PROVIDING QUALITY EDUCATION IN RURAL AREAS

By implementing educational incentives in rural areas, the Mexican government will be able to improve the quality of education provided to the poor. Quality of education is directly linked to quality of schools (infrastructure) and teachers.

"Mexico's educational infrastructure is poor and lacking schools and classrooms in some areas of the country, such as very small or isolated communities. Most of the funds made available to CONAFE (National Council for Education Development) through World Bank loans were used to improve basic school infrastructure and equipment, such as bathrooms, cement floors, student desks, and blackboards. Many schools have inadequate or insufficient infrastructure for sports or physical education, and no arts or music facilities. Teachers often have to work with very limited resources and few schools have libraries, copier machines, and computers with internet access."[20] A clearer depiction of the educational infrastructure environment follows:

[20] Lucrecia Santibañez, Georges Vernez, Paula Razquin, "Education in Mexico: Challenges and Opportunities," RAND Education, RAND Corporation Document Briefing Series, 2005, http://www.worldfund.org/assets/files/RAND_Education%20in%20Mexico.pdf, 32.

> In its thirty-fifth year, Calmecac Technical Secondary School in Neza, had begun its surrender to gravity, weather, poor construction, the fragility of glass, and the careless vitality of thousands of students. Windows had been broken; walls had started to crumble; a leak in the roof of the library had caused the ruin of most of the books and left the building shuttered. The decay of the physical hung over the students like an ancient prophecy, punishment for the hubris of naming such a place Calmecac.[21]

"A study carried out among 80 schools in distinct neighborhoods in the state of Puebla indicates that the quality of school infrastructure is skewed toward urban areas (see Table IV below)."[22] Table IV clearly depicts the disparity existing between urban and rural area education infrastructure especially where it concerns the availability of drinking water, electricity, and bathrooms; utilities critical to setting the right environmental conditions for any education effort to be successful.

To improve quality education, the Mexican government must aggressively address the problem of education infrastructure within rural areas.

Table IV: Inequality in Schooling in Puebla, Mexico: Infrastructure by Urban, Rural, and Indigenous Zones (Percentage of Schools)

Zone	Urban Middle Class	Urban Marginal	Rural Developed	Rural Marginal	Indigenous
Drinking Water	81.3	50.0	60.0	7.1	37.5
Electricity	87.5	87.5	86.7	57.1	37.5
Bathrooms	87.5	87.5	93.3	78.6	31.3
Sports Courts	75.0	37.5	40.0	42.9	50.0
Office	37.5	43.8	46.7	14.3	12.5
Patio	87.5	75.0	86.7	71.4	25.0
Auditorium	37.5	12.5	26.7	0.0	12.5
Teacher's house	43.8	37.5	26.7	78.6	31.3

Source: Sylvia Schmelkes. "Education and Indian Peoples in Mexico: An example of Policy Failure," 2000, in Fernando Reimers, ed., *Unequal Schools, Unequal Chances: The Challenges to Equal Opportunity in the Americas* (Cambridge, MA: Harvard University Press), pages, 328-329.

[21] Earl Shorris, *The Life and Times of Mexico*. New York: W.W. Norton & Company, 2004. 550.
[22] Merilee S. Grindle, "Interests, Institutions, and Reformers: The Politics of Education Decentralization in Mexico," Kennedy School of Government, Harvard University, March 2002 Draft, http://www.wilsoncenter.org/topics/docs/Grindle_Paper.pdf, 4.

Teacher training and education levels are directly linked to the by-product or outcome of their teaching effort – academic results of their students. Teacher availability, a critical enabler to providing quality education, was examined previously during the discussion on accessibility and will not be addressed.

"The problem with the quality of teacher training, particularly at the secondary level, has to do with the fact that about 40 percent of teachers in Mexico have never attended a teacher education institution, nor have they received any kind of intensive in-service training to prepare them to teach."[23] Table V (below), shows the disparity of between urban and rural teachers. The majority of those teaching in rural and indigenous schools only have high school educations.

Table V: Inequality in Schooling in Puebla, Mexico: Teacher Qualifications by Urban, Rural, and Indigenous Zones (Percentage of Schools)

Teacher's Schooling	Urban Middle Class	Urban Marginal	Rural Developed	Rural Marginal	Indigenous
9 years or less	1.1	0.0	0.0	0.0	20.9
10-11 years	4.3	3.3	1.4	0.0	9.3
12-13 years	33.9	35.9	45.1	64.0	58.1
14-15 years	6.3	22.9	18.3	12.0	9.3
16 years or more	54.0	38.0	35.2	24.0	2.3

Source: Sylvia Schmelkes. "Education and Indian Peoples in Mexico: An example of Policy Failure," 2000, in Fernando Reimers, ed., *Unequal Schools, Unequal Chances: The Challenges to Equal Opportunity in the Americas* (Cambridge, MA: Harvard University Press), pages, 328-329.

Student academic performance in rural areas is less than urban areas. A useful measure to assess quality of education is students' academic performance. "In 2005, no more than 12% of students at primary schools (grades one thru six) located mainly in urban areas underperformed in reading, while at those located primarily in rural areas the figure is at least 23%. In lower secondary education (grades seven thru nine), students at rural schools

[23] Lucrecia Santibañez, Georges Vernez, Paula Razquin, "Education in Mexico: Challenges and Opportunities," RAND Education, RAND Corporation Document Briefing Series, 2005, http://www.worldfund.org/assets/files/RAND_Education%20in%20Mexico.pdf, 31.

performed worst, and the learning divide between urban and rural areas at this level is wider as a result."[24]

Poor teacher training, plus limited teacher education, plus poor infrastructure, equals poor student academic performance, which, in turn, often leads to student disenchantment. The Mexican government can positively influence the right side of this equation by focusing efforts on improving the left side through increased spending for educational infrastructure repair, upgrades, and development and by implementing a reward based teacher training incentives. Furthermore, the Mexican government will need to establish a national mechanism for assessing quality of education to ensure initiatives are reaching their target with the desired effects.

Government investment in teacher training and education is critical to any successful education system. Teachers represent the single greatest motivator for a child, having a positive or negative impact on a child's life. Effective teaching fosters individual student creativity, a willingness to learn, a zest for knowledge and understanding, and ultimately a desire within the child for continued learning and advancement. A trained and educated teacher exudes confidence in the classroom because they understand how to teach and how to reach even the most challenged student. They demonstrate pride and enthusiasm in seeing each child perform at their best and not just settle for mediocrity. A trained and motivated teacher can be that one enabling force that can influence a child or their parent to continue with education versus leaving school and jumping into the pool of unskilled labor.

The government needs to reform teacher training programs and apply the funding necessary to attain the effects they are looking for. They need to make training accessible

[24] Juan Luis Ordaz-Diaz, "The Economic Returns to Education in Mexico: A Comparison Between Urban and Rural Ares," Cepal Review 96, December 2008: 268.

and affordable for teachers to entice participation into the programs. Most of all the government needs to reward those teachers that seek advanced education and training opportunities with monetary incentives such as salary increases based on additional training accrued or advanced job placement within the system as an administrator of a school (experience in the classroom and tenure will play a role in this) within the system. Any incentive program geared towards improving teacher training must recognize and reward the teacher for the investment of their time. Just like students, there needs to be an economic return to education for the teacher. As discussed previously, NGOs can assist governments in this endeavor by establishing and assessing teacher training programs.

Teachers are unable to teach and students are unable to learn if the building they are in is crumbling around them. The government must increase spending on infrastructure repair and upgrades. As discussed earlier when talking accessibility, new construction is required and it all starts with the government conducting assessments, developing priority of work and identifying priority of effort. A smart place to start is in the rural areas where the need is greatest.

The government needs to "institute a comprehensive assessment system of education focused on the assessment of the entire educational process including results. The system should assess the performance of all actors involved in the educational process, including State, community, education officials, teachers and researchers, parents, support institutions, and students. The assessment system should look at institutions, infrastructure, financial resources and materials, resources, and teaching aids."[25] Above everything else, this

[25] Jose G.Vargas-Hernandez, M.B.A; Ph.D, "Issues and Challenges in the Economic, Political and Social Trends," *International Journal of Education* no. 2, vol. 2, 2010: 12.

educational assessment system needs to promote transparency in execution and be free of bias.

By implementing the educational incentives outlined in Table VI (below), the Mexican government will be able to promote economic growth and stability, increase quality, affordability, and accessibility of education to the poor, and provide a means for the rural poor to attain a better station in life. The table shows how each incentive impacts one, if not all, of the educational quadrants (accessibility, affordability, quality, and opportunity).

Table VI: Impacts of Educational Incentive Programs Across the Educational Quadrants

Impacts of Educational Incentive Programs/Initiatives
(Comprehensive Strategy for Poor Rural Area Advancement)

	Educational Quadrants			
	I	II	III	IV
Incentive	**Accessibility**	**Affordability**	**Quality**	**Opportunity**
Increase government spending per student in rural areas	X	X	X	X
Invest in infrastructure development	X		X	
Solicit NGO assistance in rural areas	X		X	
Adopt new innovative financial aid programs	X	X		
Institute comprehensive assessment mechanisms			X	
Attract qualified teachers to rural areas	X		X	

Source: LTC David C. Beachman, author "Rural Education in Mexico: A gateway to a better life," JMO Research Paper, USNWC, 28 October 2011.

COUNTER-ARGUMENT

Does the target consumer (rural area poor) even want the product (education)? In this discussion it is fair to substitute the rural area poor for the Mexican government as the consumer. The rural area poor are so disadvantaged that their current station in life is all they know and when you never have seen the "light at the end of the tunnel" it is hard to expect them to fully understand how to navigate to the light or know what it takes to get there. The government must be their advocate. Therefore, the question is whether change is required in the eyes of the government and whether that change is worth the investment.

In achieving national goals and objectives focused on combatting poverty, rural area educational investment is not only prudent but necessary. It is hard to set conditions for a stable economy when one quarter of the population is disadvantaged and majority of them fall below the national poverty line. Investing in education in rural areas provides a "win/win" scenario not only for the people of those areas but for the government as well. The following are three examples where investing in rural area education will payoff:

1) "Requirement for low-skill workers will still be applicable in the future workplace. Such jobs are found in the services sector in areas like retail trade, food services, and other personal services, but they are also prominent in the manufacturing sector, as well as in construction, mining, and other extractive industries. Yet, even in jobs that do not require post-secondary training, workers will be more likely in the future to rely on new technologies in ways that require the ability to learn new software or hardware or adopt to other changes in workplace processes or practices."[26]

2) "Agriculturally, farmers will obtain greater yields by improving their knowledge and skills. Simply put, education allows them to use technology more efficiently. Therefore, increasing education in rural areas can improve know-how technology use, agricultural productivity, and living standards."[27]

3) "Education of rural area women is important if quality of life in rural areas is to improve. Women usually provide health and preventive care services and are responsible for

[26] Lynn A. Karoly, "The Role of Education in Preparing Graduates for the Labor Market in the GCC Countries," RAND Labor and Population, RAND Corporation Working Paper, February 2010, http://www.rand.org/pubs/working_papers/2010/RAND_WR742.pdf, 9.
[27] Juan Luis Ordaz-Diaz, "The Economic Returns to Education in Mexico: A Comparison between Urban and Rural Ares," Cepal Review 96, December 2008: 279.

their children's nourishment. Rural women have the lowest average education levels of anyone in the country."[28]

An investment in human capital through the application of educational incentives within rural areas will provide a foundation from which future economic growth, prosperity, and stability can be realized. It will begin the process of closing the gap of inequality between urban and rural areas and provide a needed pathway to upward social mobility - providing hope for a better future.

CONCLUSION

How does the Mexican government sell the product of education to the target consumer, the rural poor? Increasing educational incentive efforts within rural areas will improve access, affordability, and quality of education in those areas. Increasing access to quality secondary education results in the acquisition of more complex skills and knowledge; opening up better opportunities to obtain more productive jobs and increase income capacity; providing a means to escape poverty and achieve a better station in life. Education serves as the starting point in combatting poverty from which economic growth and stability can be achieved for the nation. Investing in the education of the poor will ultimately achieve national goals and objectives. Without an increased educational effort in the rural areas, the rural poor will never see the "light at the end of the tunnel," students will continue to enter the workforce instead of completing high school, and the poor will be compelled to remain as unskilled labor and exist permanently in poverty.

[28] Juan Luis Ordaz-Diaz, "The Economic Returns to Education in Mexico: A Comparison between Urban and Rural Ares," Cepal Review 96, December 2008: 279.

RECOMMENDATIONS

As discussed, the implementation of the following educational incentives as they apply to accessibility, affordability, and quality of education within the rural areas will assist the Mexican government in decreasing poverty by building educational capability, capacity, and awareness:

OVERALL

1. Reconcile "educational gaps" as they exist within the factors of accessibility, affordability, and quality of education.

2. Solicit Nongovernment Organizations (NGOs) support and assistance within the poorest rural areas with government oversight to ensure unity of effort.

ACCESSIBILITY INCENTIVES

1. Conduct an assessment within the rural areas to ascertain the proper location for new educational infrastructure development and growth. Prioritize based on population numbers within communities and where the biggest return on investment (in terms of student enrollments) can occur.

2. Invest in rural area educational infrastructure development.

3. Implement teacher monetary incentives to attract qualified teachers to rural areas.

AFFORDABILITY INCENTIVES

1. Increase government spending per student.

2. Expand financial aid programs to provide better material and monetary incentives to poor families.

QUALITY INCENTIVES

1. Reform teacher training and educational programs.

2. Increase spending on infrastructure repair and upgrades.

3. Establish a comprehensive assessment system of education focused on the entire educational process including results.

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TABLES

Table I

Mexico: Illiteracy among the population aged 6 and over, 1994-2005 (*Percentages*)			
	1994	2000	2005
National total	12.5	10.6	8.9
Urban areas	8.5	6.9	6.7
Rural areas	23.5	21.2	16.0
Rural women	26.7	24.1	18.3
Mexico: Education of the population aged 15 and over, 1994-2005 (*Years)*			
	1994	2000	2005
National total	6.5	7.4	8.1
Urban areas	7.4	8.3	8.9
Rural areas	3.7	4.4	5.6
Rural women	3.5	4.1	5.3
Mexico: Characteristics of Individuals Included in the Sample, Urban and Rural Areas, 1994-2005 (*Percentages*)			
	1994	2000	2005
Education	Urban/Rural	Urban/Rural	Urban/Rural
No schooling or incomplete primary	25.2 / 59.6	18.7 / 45.1	17.7 / 38.0
Complete primary	20.9 / 22.0	19.0 / 24.4	17.0 / 22.1
Lower secondary	30.9 / 14.5	31.5 / 23.7	28.7 / 26.0
Upper secondary	12.5 / 2.7	15.9 / 4.9	22.6 / 10.6
Degree course	10.6 / 1.1	14.8 / 1.9	14.1 / 3.4

Source: Prepared by Juan Luis Ordaz-Diaz, author of "The Economic Returns to Education in Mexico: A Comparison between Urban and Rural Areas," CEPAL Review Issue 96 (December 2008), using ENIGH data for 1994, 2000, and 2005.

TABLES (cont)

Table II

Mexico: Poverty by Area of Residence, 2000-2005 (*Percentages*)		
	2000	2005
Poverty Line	Urban Areas/Rural Areas	Urban Areas/Rural Areas
Food (a)	12.5 / 42.4	9.9 / 32.3
Capabilities (b)	20.2 / 49.9	15.8 / 39.8
Wealth (c)	43.7 / 69.2	38.3 / 61.8

Source: National Council for Social Policy Evaluation (CONEVAL), consulted at http://coneval.gob.mx/coneval/.

(a) Food poverty: Proportion of households whose per capita income is insufficient to cover food needs as given by the INEGI-ECLAC food basket.

(b) Capabilities poverty: Proportion of households whose per capita income is insufficient to cover basic consumption of food, health care, and education.

(c) Wealth poverty: Proportion of households whose per capita income is insufficient to cover basic consumption of food, clothing and footwear, housing, health care, public transport, and education.

Table III

Mexico: Poverty by Education Level and Area of Residence – 2005 (*Percentages*)			
	Food Poverty	Capabilities Poverty	Wealth Poverty
Maximum education level	Urban /Rural Areas	Urban/Rural Areas	Urban/Rural Areas
No schooling or incomplete primary	18.8 / 47.0	28.6 / 55.8	57.6 / 76.0
Complete primary	14.4 / 37.7	22.4 / 45.3	53.1 / 69.0
Lower secondary	11.2 / 28.7	19.1 / 37.6	47.3 / 62.8
Upper secondary	5.2 / 13.9	8.7 / 20.6	26.4 / 44.5
Degree course	1.2 / 4.3	1.9 / 5.0	8.2 / 20.9

Source: Prepared by Juan Luis Ordaz-Diaz, author of "The Economic Returns to Education in Mexico: A Comparison between Urban and Rural Areas," CEPAL Review Issue 96 (December 2008), using ENIGH data for 2005.