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**Factors Influencing Persons with Disability Participation in Socioeconomic Development in  
Seme Sub-County, Kenya**

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Seme Sub-County, Kenya**

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**Abstract**

**Purpose:** The study examined the factors influencing persons with disability participation in socioeconomic development in Seme sub-county, Kenya. This study answered the research questions with regards to the education level, public infrastructure and cultural practices influence on the involvement of persons with disability on socio economic development in the Seme sub-county?

**Methodology:** The study was anchored on the margin and empowerment theories. Qualitative and research method was applied through a descriptive survey design. Questionnaires and interviews were the data collection instruments administered to 208 respondents. Quantitative data were analyzed using descriptive statistics.

**Findings:** The study established that low levels of education, lack of inclusive public infrastructure, and cultural influences/ stigmatization had a significant negative influence on persons with disability involvement in socioeconomic activities.

**Unique Contribution to Theory, Practice and Policy:** The study recommends that institutions supporting persons with disabilities and the Sub-county administration should invest in disabled supporting education, public infrastructure and perception changes in the community with regards to cultural barriers. provision of formal education and advocacy on the rights of persons with disability. Finally the study fills research gaps in marginalization and empowerment theories in education, infrastructure and culture and stigma towards persons with disabilities.

**Keywords:** *Socioeconomic, Development, Persons with Disabilities*

## **INTRODUCTION**

Attaining socioeconomic development of a community depends on inclusive participation by all stakeholders. In Seme sub-county persons with disabilities are succinctly factored in socioeconomic development through education, infrastructure including transport and communication by representation of opinions, decisions, and responsibilities in activities that are conducted in their communities. It is important that increased attention ought to be given to persons with disabilities as socio-economic rights holders, autonomous from the community to which they belong. The World Bank 20011) avers that persons with disabilities are currently acknowledged as a minority rights group and do not exercise significant strategic economic influence and are generally, ultimately excluded from the large majority of societal organizations, whether in education, transport, labor or political in nature. These include, among many others, lack of equal access to education, transportation alleys, public services, and social protection, lack of access to justice, and denial of the right to live independently in the community (OECD, 2021). In the Seme Sub-County of Kisumu in Kenya, persons with disabilities were over-represented among the poorest. Attempts by persons with disability to meaningfully participate in the social, economic, and political space in the community networks are hindered by various obstacles which are constructed by society and not the persons with disability themselves. The study, sought to establish factors influencing the involvement of persons with disabilities in socio-economic activities.

### **Problem Statement**

In Seme Sub-county persons with a disability ubiquitously lack access to information about community services and programs. Many rural disabled people have limited or no access to transportation and rural roads while buildings are often not accessible to those with physical or visual impairment. The scarce inclusive rural schools and training centers insidiously lack the necessary assistive devices affirming the fact that their training approaches are often not geared toward diverse learners. Culturally the negative attitudes, and stereotyping by indigenous traditions on the abilities of disabled people have concisely led to discrimination. As a result, the meaningful participation of persons with disabilities in socioeconomic development is minimal. The study, sought to establish factors influencing the involvement of persons with disabilities in socio-economic activities.

### **Theoretical Review**

The study employed the theory of margin by Howard Y. McClusky (1970), also referred to as a theory of participative behaviour who defines margin as a "function of the relationship of load to the power" (Hiemstra, 2002) and the theory of empowerment which as understood by Julian Rappaport (1981), comprehends human problems in the context of a social, political, and economic environment that is stratified and oppressive to those with the fewest advantages in society

McClusky (1970), defines load as the "self and social demands by a person to maintain a minimum level of autonomy" and power is described as "resources such as abilities, possessions, position, allies, etc. which a person can command in coping with the load". From this characterization of load and power, Lupanga (1988) derives a hypothesis to explain the lack of people's participation in development activities in developing countries. The hypothesis is that the majority of rural people including persons with disabilities in most of the developing countries have a heavy load emanating from development challenges including education and infrastructure and little power to cope with cultural stigma there with and hence they are too preoccupied with mere survival to participate meaningfully in development activities. This implies that the higher the margin between inaccessibility be involved creates a reverse load on persons with disability and influence decisions resulting to lesser participation in development activities. If the hypothesis is true, a logical conclusion is that efforts to mobilize such marginal masses to participate in development activities must, of necessity, include reduction of load or raising of their power or both.

Empowerment theory by Julian Rappaport (1981), understands human problems in the context of a social, political, and economic environment that is stratified and oppressive to those with the fewest advantages in society. Persons with disabilities in Some sub county have challenges in access to models of coping toward attaining education that is impeded by transport challenges a cultural stigma. A definition by Rappaport (1984) accounts for the fact that empowerment may occur at multiple levels of analysis: "Empowerment is viewed as a process: the mechanism by which people, organizations, and communities gain mastery over their lives," but does not provide details about the process across levels of analysis. These definitions suggest that empowerment is a process in which efforts to exert control are central. The study selected empowerment theory because its focus is on poverty alleviation and deals with poor segments of the society. For instance, persons with disability having infrastructure that facilitate their mobility and safety in communities and public places. These are developed through development and enhancement of policies and acts of parliament that are meant to ensure inclusion of a person or person(s) with disability in every stage of communal decision-making process. Most of the persons with disability challenges of poverty such as socio-economic, health, education and food security. The assessment of the effects of the awareness and decision-making representation against these challenges will inform whether policy making incorporates inclusivity by persons with disability or not.

Theory of empowerment is relevant to this study in the sense that it will enable the researcher investigate the outcomes brought by inclusion of persons with disability in policy making towards programs that are meant to empower them in leading socioeconomic development within their locale. The theory was used to investigate the anticipated changes among policy makers at the grassroots level, through to the county assemblies and in the education and cultural settings. The Constitution of Kenya (2010), makes it mandatory that public participation is conducted towards policy formation, thus the researcher will use the theory of empowerment to assess the process of increasing access and authority of persons with disability in socio economic activities that moves

them to an empowered state through public participation and representation in decision making forums. Empowerment theory will enable the researcher to assess the quality of services available to persons with disability that impede in them getting education and their non-disabled peers. The premise of the theory is that; individuals are supposed to be free from limitations, conditions of exploitation, inequality and oppression. Therefore, the theories helped the researcher to assess the extent of cultural barriers and stigma that deprives persons with disability from enjoying their freedom of movement, participation and decision making in matters affecting their involvement in socio-economic development.

### **Empirical Literature**

The key themes upon which empirical literature was based were; Education, Infrastructure and Socioeconomic Development from a global, regional, and local perspective. Lack of inclusive environments often lead to deprivation of opportunities, such as education, skill training, work or income-generating business, access to health care or leisure activities. As a result, many persons with disabilities are unable to get out of their own homes and lead independent, productive and fulfilling lives.

In the socio-economic context, development means the improvement of people's lifestyles through improved education, incomes, skills development and employment. It is the process of economic and social transformation based on cultural and environmental factors. Education is a precursor to economic empowerment. Access to education for persons with disability is requisite for engagement in once community life. In the United States law, Shah et. Al (2019), posits that adaptation equipment such as wheelchairs is rarely replaced being a barrier to mobility of persons with a physical impairment to participate in physical community activities. Findings from a study on the challenges of living with disability in America (The Commonwealth Fund, 2019), indicate that is difficult for people with disabilities to live in community settings, have a job, afford health care and get the support they need and the situation gets aggravated where illness is compounded. People with disabilities often require long-term services and support which requires assistance with day-to-day activities such as transportation, help with attending school, and management of routine care. In Tanzania Possi. M (2019) notes that children do not receive education (4% out of 10%) due to discrimination, social barriers, and problems with access. Previous research by Carsons (2012), and Possi (2019,) applied the descriptive study to identify educational opportunities for persons with disability without addressing the components of technology. This gap is a function of this study by applying inferential analysis.

According to ICED Facility 15% of the world's population experience some form of disability. The United Nations Committee on the Rights of Persons with Disabilities (2008) defines disability-inclusive infrastructure and services that are fit for purpose and remove barriers to people with disabilities; including but not limited to physical, mental, intellectual, or sensory impairments. Morbidity constraints are a serious impediment to disability – inclusive development as they

exacerbate the personal, economic, and social economic. ICED Facility further states that infrastructure if designed and implemented correctly can empower people with disabilities to be part of societal and economic development. Transport infrastructure depending on their design can enable or impede access and participation of Persons with Disabilities (PWDs) in various social and economic activities. Accessible public transport gives people with disabilities access to education, employment and healthcare, as well as social contacts with family and friends. The ability to move and travel independently is fundamental to breaking the downward spiral of dependence and poverty (TUMI, 2010).

While accessibility is dependent on the ability of the built environments to recognize the diversity of the needs of PWDs along the travel chain, safety is dependent on the transport system ability to protect the vulnerable users from accidents and injuries. Safe mobility entails “the ability of a person to safely and reliably access preferred destination by navigating an environment that considers his or her needs and preferences”. Safe mobility, therefore, entails the ability of the PWDs to independently use a mode of transport. Affordability entails the extra “hidden” cost that PWDs have to incur for their mobility. Disability inclusion is not consistently and effectively embedded within the infrastructure sector and as a concept is still not comprehensively understood in many low-income countries. Globally we are yet to define what ‘good’ infrastructure could be for people living with disabilities, including those with reduced mobility, hearing or vision, or people who are neuro-diverse. The manner in which infrastructure, both in urban and rural contexts, is designed, constructed and maintained has generally failed to consider the unique ways that physical and social barriers limit the participation of people with disabilities in public life (DIAUD, CBM and World Enabled (2016). The World Bank (2016), notes that persons with disabilities have been deeply disenfranchised due to infrastructural barriers which impact their ability to engage in civic and electoral processes independently or privately (Lord, Stein, and Fiala- Butora, 2014).

Globally the definition of “good” infrastructure could be for people living with disabilities including those with mobility hearing or vision or people who are neuro-diverse is yet to be defined (DFID, 2016-2023). Disability is not just an issue of a small minority within the general population; there is a much larger population affected, constrained or limited due to commitments to people living with a disability. As explanation, a study in China found that while 5% of the population had a disability, approximately 20% of people lived in a household where someone had a disability<sup>10</sup>. The implication is that mainstreaming accessibility promotes independence for both people with disabilities and those on which they rely to help them in daily life (Anjlee & Andre 2016). Disability-inclusive infrastructure can create environments for people with disabilities to have civil, cultural, political, social, and economic rights and entitlements. Otieno (2013), factored on persons with disabilities mainstreaming food and agricultural practices. Using a descriptive survey, the study established that technology use was not studied concerning access to participation. Awareness and adaptation, an area this study has addressed. At the grassroots level in rural areas of Western Kenya. Without accessible transportation, people with disabilities are

more likely to be excluded from independent access to employment, education, and healthcare facilities, and to social contact and recreational activities (Roberts & Babinard, 2005; Venter et al, 2004).

Cultural and social barriers are related to conditions in which people are born, grow, live, learn, work, and age which contributes to decreased functioning among people with disabilities (CDC, 2020). Cultural factors affect how persons with disability are view and treated in the society. This includes fewer chances of getting employed, failure to complete schooling, having less income, and experiencing violence in America (Hortonville and Boege, S (2019). Attitudes can be described as "learned dispositions affecting feelings thoughts and actions." The attitudes of community members and society can impact the ability of people with disabilities to be accepted and integrated into the community, both by affecting self-efficacy and by influencing their physical and social environment. In all regions of the world persons with disabilities face attitudinal barriers, including prejudice, low expectations and even fear. Negative attitudes about disability impact on all aspects of the lives of persons with disabilities, including the ability to access education, to participate in non-exploitative work, to live where and with whom one chooses, to marry and start a family, and to move about freely within the community. Attitudes to disability are not always uniform within a region or even within a country. Different groups or individuals may have beliefs about disability that vary from those held by wider society and beliefs may vary even within small communities and within families.

In African societies, as in societies in other regions, there are examples of positive and empowering beliefs about disability. However, as is the case in many settings across the globe, disability is sometimes also associated with negative perceptions resulting in stigma, discrimination, exclusion and violence, as well as other forms of abuse of persons with disabilities. Community attitudes are particularly important because active community involvement is essential for the success and sustainability of a community-based rehabilitation program. The community should be involved in all steps of the process, including program planning, implementation, and evaluation. Stigma and discrimination against people with mental health problems are widespread and affect all areas of life including personal, home, and family life, work, and even people's ability to maintain a basic standard of living. People with mental health problems often describe the stigma and discrimination they face as worse than their main condition. Family members of people with mental health problems are also subject to limited understanding, prejudiced attitudes, and discriminatory behavior. Stigmatization may lead to self-stigma, whereby people with mental health problems and their family members internalize society's negative attitudes towards them; they may start to believe what others say and think about them, often leading to self-blame and a decrease in self-esteem. Anticipation of rejection due to stigma may result in many people reducing their social networks and not taking advantage of life's opportunities. This, in turn, may lead to isolation, unemployment, and lowered income. Experienced or anticipated discrimination is the main reason why many people hide their mental health problems and do not seek help.

### Summary: Restatement of the Knowledge Gap and Research Problem

Existing studies show that persons with disabilities are seldom incorporated in the development agenda however they do not explicitly indicate the challenges that engulf the persons with disability in rural areas especially through marginalization and lack of empowerment in rural areas. Niesz, Tricia & Koch, Lynn & Rumrill, Phillip. (2008). In their research on the empowerment of people with disabilities through qualitative research focused on vocational rehabilitation using a descriptive study. The cultural aspects are reviewed from a western lens and not grounded on traditional components. This study will employ a mixed method approach and will look at the socioeconomic aspects of development in relation to cultural factors influencing pwds in their involvement. Osman Mohamed Osman Nurazzura Mohamad Diah in 2017 conducted a research on empowering people with disabilities via information communication technology in the case of Malaysia. Although the study is focused on empowering in the 21st Century it lacks rigor with regards to developing countries and application of education to use information technology as a medium of empowerment. This study elucidates on the educational aspects in rural area and will bring out the gaps in education access. The study also portrayed aspects of the labour market however this study focuses on the representation by participation through inclusion policy formulation, implementations and evaluation as practiced verses as required in policy documents. Studies show that persons with disabilities have been considered to be dependence on humanitarian aid yet they are well capable to contribute to development. Talaa M. Said (2015) in a research titled Economic empowerment of people with disabilities (PwDs) in Zanzibar through their inclusion in microfinance and vocational training institutions observed that poverty among PwDs is associated with deep-rooted attitudes of families, communities and government of excluding PwDs in development programs. In his finding he attributed the solutions towards financial support via the Zanzibar Association of the Disabled (UWZ) that introduced loan and vocational skills schemes in 1990 to empower PwDs economically. However, UWZ economic empowerment initiatives address the needs of very few PwDs and in doing so, it excludes PwDs from the mainstream. His study established that microfinance and vocational training institutions could accommodate a large number of PwDs in an inclusive approach within a short period of time. The study however did not factor in the infrastructural preparedness and access to buildings and roads, walkways and pwd friendly facilities. The study does not show the sampling framework and research design, a component this study has addressed.

## METHODOLOGY

The descriptive survey design was (Mugenda, 2003) was best suited for this study to present how education, infrastructure and culture influences the involvement of persons with disability on socio economic development in Seme Sub County. Both statistical and descriptive data were then used in measuring the relationship between the variables under investigation. The study area was in Seme sub county, Kisumu County, Kenya which comprises of 4 electoral wards namely North Seme, East Seme, and West Seme and Central Seme wards (NG-CDF, 2022). It is also divided into 6 locations and 28 administrative sub-locations. Seme - subcounty has a population of 121,667 persons (KNBS, 2019), with an estimated population of 1738 persons living with disability (CRS, 2022). The target population being persons with disability are estimated to represent 1.4% of the population. Sampled respondents were drawn in cognizance of the socioeconomic development programs in the study area. The target population was calculated at 6.38% confidence interval from an entire population of 1738 thus from the target population a sample size of 208 persons with disabilities was received. The study also conducted key informant interviews for triangulation of findings through collection of information from community leaders, professionals, or residents who have firsthand knowledge about the community.

**Table 1: Target Population Matrix**

Name of Ward	No Of Ward Administrators	No of PWDS	No of	No of	No Of Community Workers	Total
			Opinion Leaders	Program Officials		
North Seme	1	41	1	3	7	54
East Seme	1	48	2	1	7	60
West Seme	1	56	2	1	7	68
Central Seme	1	63	1	1	7	74
<b>TOTAL POPULATION</b>		<b>208</b>	<b>6</b>	<b>6</b>	<b>28</b>	<b>252</b>

### Description of the Sample and Sampling Procedures

Sampling procedure is defined by Mugenda and Mugenda (2003) as a technique of selecting the subjects or cases to be included in the sample. The study adopted an ideal sample size based on (Krejcie & Morgan, 1970). Confidence interval at 95%, Error of Margin at 6.38%, Population size of 1738

The formula used is shown below:

$$n = \frac{X^2 * N * P * (1-P)}{(ME^2 * (N-1)) + (X^2 * P * (1-P))}$$

n: required sample size;

$X^2$ : the table value of chi-square for one degree of freedom at the desired confidence level

N: the population size

P: the population proportion (assumed to be 0.54 since this would provide the maximum sample size)

ME<sup>2</sup>: the degree of accuracy expressed as a proportion. (0.5) the desired margin of Error

Based on this formula the preferred sample size for the study based on the sampling tables would be 252, given a confidence interval of 95% and margin error of 6.38%, 10% of the PWDs was sampled from each of the four Wards, comprising six administrative locations and twenty-eight sub locations in Seme Sub County representative of the hearing, visual and physical impairment. Stratified sampling technique was used where the respondents were divided into main sectors categories comprising a constitutional authority i.e. the Ward Administrators, opinion leaders drawn from the local community, number of program officials who assist with education and learning, community social workers involved in the persons with disability activities and the persons with disabilities from each of the twenty-eight sublocations. Based on the availability of the type of impairment a minimum of 10% was selected in each category. An interpreter was sought to assist with transcribing and recording data. In situations where the respondent had a mental health challenge then the services of the competent program official was sought. Opinion leaders on cultural matters were sufficient in describing cultural perceptions. This technique was chosen to ensure adequate coverage of pwds in Seme Sub County. Judgmental sampling may be used to select key informants believed to have the skills, knowledge and experience in working with persons with disabilities.

### **Description of data Collection Procedures**

After approval of the research proposal by the supervisor and the university panel, the researcher acquired a letter from the university granting proceeding permission to carry out the research. After piloting, corrections and adjustments to the questionnaires the questionnaires were then administered by the researcher to the sample population and collected back for analysis. The respondents were assured of full confidentiality of their identities by the researcher.

### **Data Analysis**

This comprised of a careful analysis of the completed questionnaires in order to ensure that collected data is accurate and consistent with other information gathered. The collected data was coded by the researcher for efficiency in order to reduce the replies given by the respondents to a small number of classes. After the coding is completed, the data was classified on the basis of common characteristics and attributes. The raw data was then accumulated and tabulated in form of statistical tables to allow for further analysis. This enabled the summation of items and detection of errors and omissions. Descriptive statistics

was used to analyze the data. This entails the use of measures of central tendency such as the mean, mode, median and measures of normal distribution. The Statistical Package for Social Sciences (SPSS) was used to aid the statistical analysis of the data. Content analysis was applied to the qualitative data in order to identify patterns, themes and biases. Finally, all data was stored in soft and hard copies in the form of tables.

### **Ethical Considerations of the Study**

Informed consent of the research respondents was sought by the researcher to enable the research participants to voluntarily and knowingly give their consent to participate in the study. The anonymity of the research participants was protected by ensuring their names were not disclosed in the data collection instruments to cover the subject's identity making it difficult to link them with their responses. A high level of confidentiality on the information provided by respondents through questionnaires was mandatory. A clear explanation of the objectives of research was given as the research was conducted. Further, the respondents were free to give and withhold as much information as they wish to the person they choose during the research without external force or coercion

## **FINDINGS**

### **Demographic Characteristics**

The questionnaires were administered to 208 persons with disability, 6 programme officials (PWD officers from locations), 4 Sub county administrators, 28 community health workers and 6 local cultural opinion leaders in Seme Sub County in Kisumu, Kenya of which 244 responses were full response and 8 were partial which translates to 97% response rate. This was as a result of administering the questionnaire through face to face and using of a sign language interpreter. The entire return rate is statistically representative, therefore, enhancing generalization of the research results. The statistical results were triangulated with literature to draw lessons learned from other similar research works.

The demographic characteristics of respondents who participated in this study had characteristics that included hearing impairment, physical impairment, visual impairment metal health conditions, age, gender, the level of education, attendance in school/years residing in local place, involvement in development meetings and activities, mobility to public participation venues, leadership roles/ support from community leaders and county leadership involvement of pwds in socio-economic programs. This data represents data on the age of respondents interviewed.

**Table 2: Gender Distribution of Respondents**

Answer	Count	Percentage
Female (F)	123.0264	48.82%
Male (M)	128.2428	50.89%
No answer	0.756	0.30%
<b>Total</b>	<b>252</b>	<b>100%</b>

As shown in Table 2 of the 252 respondents who participated in this study 123 of them, equal to 48.82 % were female while 128 of them equal to 50.89 % were male.

This section presents data on the education level of all respondents surveyed.

**Table 3: Level of Education of PWD Respondents**

Answer	frequency	Percentage
No School	45	21.63%
Primary	30	14.42%
Secondary School	40	19.23%
Diploma/Technical	82	39.42%
Degree	6	2.88%
Masters	5	2.40%
<b>Total</b>	<b>208</b>	<b>100%</b>

As shown in Table 3 above of the 208 PWD respondents who participated in this study 45 of them, equal to 21.63 % had not attended formal school education, 30 of them equal to 14.42 % had attended primary school, 40 of them equal to 19.23% had attended secondary school while 82 diploma/technical education represented by 39.42%, the study also noted that 6 PWDs had degrees represented by 2.88% of the respondents while 5 had attained Master's degree from University equal to 2.40%. This indicates 21.63% of the respondents had attained some formal education and

had filled the questioner or were interviewed.

PWDs could only attend school in the special education centers designed for their needs and these centers were not as widespread throughout the Sub County, leaving a large number of children whose parents could not afford to take their children to these schools neglected. The cost of special needs education also very high creating a challenge due to poverty levels in the country. Most of these special schools were located in urban areas thus leaving out a large number of children in rural areas not catered for.

**Table 4: Educated and In Employment or Doing an Income Generating Activity**

Category	Yes	%	No	%	Total
Employed	50	24.03846	158	75.96154	208
In Personal Business	25	12.01923	183	87.98077	208
Community based business	20	9.615385	188	90.38462	208
Formal employment	16	7.692308	192	92.30769	208
Informal Employment	105	50.48077	103	49.51923	208

As shown in Table 4 above of the 208 respondents who participated in this study 50 of them, were educated and employed representing 24% while 158 representing 75.96% were not employed. 25 respondents representing 12% of respondents were in personal business and 183 respondents with disability were not in business. Community based businesses were witnessed and responded as 9% in which PWD were involved with 90% not in community activities that generated income. In the formal employment 16 respondents representing 7.6% had been employed while 192 PWDS were not in formal employment. Informal employment represented by 105 respondents for sustenance represented 50% of the respondents equal to 103, were not involved in any form of business. This indicates respondents filled the questioner were interviewed involved in some form of income generating activity however education gave them a barrier thus the low involvement sustainable development activities from income.

**Table 5: PWDs Involved in Income Generating Activities & Answered Yes Involved in Employment / Income**

Generating Activity	Frequency	Percentage	Cumulative
Employed in an office working in front office	34	10.24	10.24
Employed in an office working in support position	1	0.3	10.54
Employed in public sector	2	0.6	11.74
Employed in private sector	0	0	12.04
Employed in managerial position	48	14.46	26.5
Employed on part time	1	0.3	26.8
Employed on full time	4	1.2	28
Having own private business	10	3.01	31.01
Having a large own business	13	3.92	45.17
Having a farm business	12	3.61	48.78
Having a community / Sacco business	26	7.83	56.61
Proprietors and also in formal employment	147	41.17	98.98
Total	208		

As shown in the Table 5, above of the 208 respondents who participated in this study were persons with disabilities involved in employment or some form of income generating activity: 147 of them, equal to 41.17 % where in employment but also trading in other businesses representing 41%, while in formal employment alone there was 34 representing 10.24% of the entire population sampled. 48 representing 14% present were managers in wither their own businesses or in formal employment. 3% owned businesses alone and also worked in farms represented by 12 and 13 respondents respectively.

### Public Infrastructure as Accessible to PWDs

This section presents data on the number of persons with disabilities who have challenges accessing public infrastructure. 208 PWDs who use mobility, communication, buildings and social amenities were interviewed and responses tabulated as in Table 7 below. Those with public transport accessible modes are 184 representing 76.3 % of the respondents, and 5 representing 12.8 % who have challenges accessing buildings while 21 representing 10.8% did state that hearing posed a barrier to receiving communication.

**Table 6: Type of Public Infrastructure and PWDs Barrier Response**

Type of public infrastructure	Frequency	Percent
Public roads	184	76.3%
Public Buildings (Visual)	5	12.8%
Public Buildings (Hearing)	4	10.8%
Public walkways (designated)	15	32.07%
Total	208	100.00%

**Table 7: Binomial Test (2 Outcomes)**

	Level	Count	Total	Proportion	p
Type of public infrastructure	Public Buildings (Hearing)	1	5	0.200	0.375
	Public Buildings (Visual)	1	5	0.200	0.375
	Public roads	1	5	0.200	0.375
	Public walkways (designated)	1	5	0.200	0.375
	Total	1	5	0.200	0.375

$H_a$  is proportion  $\neq 0.5$

The binomial proportion test -square statistic is 0.200. The p-value is .375. The result is not significant at  $p \neq 0.5$ . hence there is a relation between classroom learners' environment /

environment in learning community of PWDs and learners with disability attending school. Hence the null hypothesis, stating there is no relationship between the type of the learner’s institution whether specialized, public or private, day or boarding, age group segregated and the community infrastructural challenges and so the PWDs is not accepted in stating their barrier in the environment. And the alternative hypothesis is accepted thus the PWDs environmental factors had an effect on attending school requiring the infrastructural improvement in relation to their contribution to socioeconomic development in the sub county.

**Table 8: PWDs Having Physical Impairment**

Answer	Frequency
Yes (Y)	208
No (N)	44
No answer	0
Total	252

As shown from Table 8 above, 224 equivalents to 92 % of respondents have physical impairment and 8% do not have physical impairment. Those with physical impairment included, those using clutches, wheelchairs, walking aids, some were armless or with fingers missing including with humps emanating from polio infections at an early age.

This section presents data on types of disability in Some Sub-County in the twenty-eight administrative units. From the study, 166 equivalents to 68.9 % of homesteads had a physical disability or movement problem and 25 equivalents to 10.4 % do not use movement assistive devices and 61 equivalents to 20.7% did not respond. The respondents in this category indicated that road infrastructure had a negative influence in their daily activities, representing about 35% of PWDs that associated the use of walking devices to improve public participation, this is followed by PWDs using hearing aids and visual aids respectively. At the same time respondents indicated the highest barrier to socio economic activities involvement was the duration it took them to get to public venues due to distance and modes of transport at their disposal to attend public events. About 66.4% of those surveyed have a dedicated person to help them reach in public places, 12 % do not have a person to help them reach public places, and 21.6 % did not respond.

**Table 9: Type of Infrastructure Used by PWDS**

PWDs RESPONSES TO THE FOLLOWING	Frequency	Percent %
Buildings without ramps building	54	25.96
Buildings without signs/direction	24	11.54
Pathways with designated labels	5	2.40
Designated pathways	12	5.77
Buildings without lifts	62	29.81
Supportive visual aids	51	24.52
TOTAL	208	100

**Table 10: Type of infrastructure PWDs Use**

Descriptive						
		<b>PWD RESPONSES TO:</b>		<b>Percent</b>		<b>Frequency</b>
Mean		Buildings without ramps building		25.0		54.0
		Buildings without signs/direction		11.0		24.0
		Pathways with designated labels		2.00		5.00
		Designated pathways		5.00		12.0
		Buildings without lifts		29.0		62.0
		Supportive visual aids		24.0		51.0
		TOTAL		100		208
Median		Buildings without ramps building		25		54
		Buildings without signs/direction		11		24
		Pathways with designated labels		2		5
		Designated pathways		5		12
		Buildings without lifts		29		62
		Supportive visual aids		24		51
		TOTAL		100		208
Minimum		Buildings without ramps building		25		54
		Buildings without signs/direction		11		24
		Pathways with designated labels		2		5
		Designated pathways		5		12
		Buildings without lifts		29		62
		Supportive visual aids		24		51
		TOTAL		100		208
Maximum		Buildings without ramps building		25		54
		Buildings without signs/direction		11		24
		Pathways with designated labels		2		5
		Designated pathways		5		12
		Buildings without lifts		29		62
		Supportive visual aids		24		51
		TOTAL		100		208

**Table 11: Response to Use of Infrastructure**

Descriptive	Statements	Mean	Mode	Minimum	Maximum
NO					
	The available infrastructure has significantly helped PWD contribute to community activities in public places through trade and social inclusion in the sub-county	180.00	180.00	180	180
	The sub-county has invested significantly in physical infrastructure conducive to the disabled in public places	154.00	154.00	154	154
	There are ramps, disability friendly walkways that have made it possible for persons with disabilities to securely move about in the community	164.00	164.00	164	164
	There is need to improve on the infrastructure to help in PWD involvement in community activities, meetings and trade county	0.00	0.00	0	0
NO RESPONSE					
	The available infrastructure has significantly helped PWD contribute to community activities in public places through trade and social inclusion in the sub-county	10.00	10.00	10	10
	The sub-county has invested significantly in physical infrastructure conducive to the disabled in public places	32.00	32.00	32	32
	There are ramps, disability friendly walkways that have made it possible for persons with disabilities to securely move about in the community	20.00	20.00	20	20
	There is need to improve on the infrastructure to help in PWD involvement in community activities, meetings and trade county	6.00	6.00	6	6
NOT SURE					
	The available infrastructure has significantly helped PWD contribute to community activities in public places through trade and social inclusion in the sub-county	8.00	8.00	8	8
	The sub-county has invested significantly in physical infrastructure conducive to the disabled in public places	10.00	10.00	10	10
	There are ramps, disability friendly walkways that have made it possible for persons with disabilities to securely move about in the community	10.00	10.00	10	10
	There is need to improve on the infrastructure to help in PWD involvement in community activities, meetings and trade county	0.00	0.00	0	0
YES					
	The available infrastructure has significantly helped PWD contribute to community activities in public places through trade and social inclusion in the sub-county	10.00	10.00	10	10
	The sub-county has invested significantly in physical infrastructure conducive to the disabled in public places	12.00	12.00	12	12
	There are ramps, disability friendly walkways that have made it possible for persons with disabilities to securely move about in the community	14.00	14.00	14	14
	There is need to improve on the infrastructure to help in PWD involvement in community activities, meetings and trade county	202.00	202.00	202	202

The table 11 above shows how PWDs responded to frequency on use of infrastructure in which 25% the surveyed indicated that buildings were without ramps , 11%% of buildings do not have direction signs while 2% indicated pathways did not have designated labels. 29% of the persons with disability responded that buildings they had assessed did not have escalators and 24% did not have visual aids to support the visually impaired. Buildings are likely to have highest influence on adaptability of PWDs participating in socio economic activities given the protective measures incorporated and the accessibility to the venues without assistance. As observed by Ayodo, (2022) a majority of our buildings are not friendly for the physically challenged. He avers that several public and private buildings cause barriers to physically challenged people who need services but cannot access higher floors. This is affirmed by the comparatively high frequency exhibited in the findings on the frequency table at 54 for buildings without ramps and those without lifts having a frequency of 62.

The following table shows the change in involvement in socio economic activities driven by infrastructures accessible at the various group levels.

#### **Involvement in Socio Economic Activities**

In the above section the responses were recorded with regards to change in involvement in socio economic activities when the infrastructure was dilapidated deters persons with disabilities engagement with the school, churches and functional government offices where they can get support and help from. Mandatory signs, designated areas, legal institutions, churches, offices have an influence in involvement of PWDs in socio-economic activities. Based on the research question how does public infrastructure influence the involvement of persons with disabilities in socioeconomic development in the Seme sub-county? The null hypothesis taken is that infrastructure does not have a role on the involvement of persons with disability in socioeconomic development. The findings however indicate that 180 respondents out of 208 indicated that infrastructure had not significantly helped PWD contribute to community activities in public places through trade and social inclusion in the sub-county. 12 out of the 208, observed that the physical infrastructure they had access to were conducive to the disabled in public places. It is against this finding that the research affirms that the hypothesis that infrastructure is a barrier to the holistic involvement of PWDs in socio economic activities ad exemplified in the table below.

## One Sample T-Test

**Table 12: One Sample T-Test**

		Statistic	df	p
YES	Student's t	1.25	3.00	0.150
NOT SURE	Student's t	2.94	3.00	0.030
NO	Student's t	2.98	3.00	0.029
NO RESPONSE	Student's t	2.93	3.00	0.031

Note.  $H_a \mu > 0$

$p=0.150$  indicating that the hypothesis is rejected with  $\mu$  greater than 0, implying that the respondents 0.150 indicated that infrastructure was a barrier to their involvement in public activities and socio-economic activities.

## ANOVA results for total change in involvement by PWDs in Socio Economic Activities as Opined for Infrastructural Changes and Infrastructural Considerations

**Table 13: One-Way ANOVA (Non-parametric)**

Kruskal-Wallis

	$\chi^2$	df	p	$\epsilon^2$
YES	3.00	3	0.392	1.000
NO	3.00	3	0.392	1.000
NO RESPONSE	3.00	3	0.392	1.000
NOT SURE	3.00	3	0.392	1.000

An analysis of variable showed that the role of infrastructural changes had a significant,  $\chi^2 (3)$ ,  $df=3$ ,  $p<.00$ , implying to decline in the involvement of PWDs in socioeconomic development. This section presents data on the characteristics resulting from the improvement of roads, buildings and social amenities on the involvement of PWDs in various development activities. Identifying effectiveness and efficiency of movement, walkways, ramps, tasks done towards improving buildings, labelling and design, accessibility and reliability of interpreters being measurable

aspects that inform involvement of PWDs in socioeconomic development.

### Infrastructural improvement on PWD involvement

**Table 14: Proportion Test (2 Outcomes)**

Binomial Test									
						95% Confidence Interval			
	Level	Count	Total	Proportion	p	Lower	Upper	Lower	Upper
Statements	The available infrastructure has significantly helped PWD contribute to community activities in public places through trade and social inclusion in the sub-county	1	4	0.250	0.313	0.00	0.751	0.0473	0.484
	The sub-county has invested significantly in physical infrastructure conducive to the disabled in public places	1	4	0.250	0.313	0.00	0.751	0.0473	0.484
	There are rumps, disability friendly walkways that have made it possible for persons with disabilities to securely move about in the community	1	4	0.250	0.313	0.00	0.751	0.0473	0.484
	There is need to improve on the infrastructure to help in PWD involvement in community activities, meetings and trade county	1	4	0.250	0.313	0.00	0.751	0.0473	0.484

Note.  $H_0$  is proportion < 0.5

The above table captures respondent's data with regards to physical infrastructure available to enable PWDs access to community activities in Seme Sub-County. As to whether the county had invested significantly in physical infrastructure conducive to the disabled more than half 68.1% disagreed with the assertion while 26.5% agreed and 4.7% were neutral. This implies that the Sub-county had lagged in investing in infrastructure that would support disability readiness to

Participate. Such infrastructure would include ramps and another access point to ease the movement of the disabled. This result is also true for South Africa as Komana (2015) had ascertained via his descriptive survey done to undertake an evaluation of the infrastructural mechanisms available to persons with disabilities in South Africa.

### Regression Analysis

Regression analysis was the best instrument to utilize because the study's method of measuring constructs was mostly quantitative. Regression is utilized because the independent variables' ability to predict the dependent variable. The tables below show the findings.

### Infrastructure and PWDs Involvement Regression Model Summary

**Table 15: Multinomial Logistic Regression**

Model Fit Measures

Model	Deviance	AIC	R <sup>2</sup> McF
1	5.15e-5	24.0	1.000

A multinomial logistic regression was performed to predict involvement index based on the use of PWDs involvement in socio economic activities. A significant regression equation was found (D (5.15e-5) ; AIC 24.0 with an R<sup>2</sup>McF of 1.

Predictors: (Constant), Reliability of involvement of by PWDs socioeconomic activities, Dependence on infrastructure accommodating mobility, movement and access, Relationship on involvement of PWDs on development, buildings, community meetings and public participation is delegated to use of accommodative buildings, roads and disability friendly environments in relation of timely participation in development activities in time, and accessible places. Based on the Akaike information criterion (AIC), the findings remain asymptotically optimal that the reliability (R) on public infrastructural improvements is commensurate with the expectation of persons with disability in socio economic activities.

**Table 16: ANOVA**

Model Coefficients - Statements

Statements	Predictor	Estimate	SE	Z	p
The sub-county has invested significantly in physical infrastructure conducive to the disabled in public places - The available infrastructure has significantly helped PWD contribute to community activities in public places through trade and social inclusion in the sub-county	Intercept	-0.00420	3.25	-0.00129	0.999
	YES	-0.09654	23.95	-0.00403	0.997
	NO	-0.12604	90.55	-0.00139	0.999
	NOT SURE	-3.43197	69.80	-0.04917	0.961
	NO RESPONSE	2.78020	718.14	0.00387	0.997
There are rumps, disability friendly walkways that have made it possible for persons with disabilities to securely move about in the community - The available infrastructure has significantly helped PWD contribute to community activities in public places through trade and social inclusion in the sub-county	Intercept	0.03747	12.13	0.00309	0.998
	YES	-0.01694	26.34	-6.43e-4	0.999
	NO	-0.45000	108.73	-0.00414	0.997
	NOT SURE	7.81167	3470.19	0.00225	0.998
	NO RESPONSE	0.44870	875.94	5.12e-4	1.000
There is need to improve on the infrastructure to help in PWD involvement in community activities, meetings and trade county - The available infrastructure has significantly helped PWD contribute to community activities in public places through trade and social inclusion in the sub-county	Intercept	0.00560	12.92	4.34e-4	1.000
	YES	0.02650	26.22	0.00101	0.999
	NO	-0.16326	124.53	-0.00131	0.999

Model Coefficients - Statements

Statements	Predictor	Estimate	SE	Z	p
	NOT SURE	0.11035	3587.21	3.08e-5	1.000
	NO RESPONSE	1.19139	880.27	0.00135	0.999

To perform specific tasks, Relationship on use of infrastructure designed for access and inclusive of PWDs, to attend schools, be in offices, attend to food production in farms, access public places like churches, meetings and churches etc. is delegated to infrastructure including roads and pathways, buildings and structures, signs and; labeled to assist PWDs. Relation of PWDs and involvement of activities in time, relates to convenience of movement to required locations. The involvement of pwards in socio economic activities is hampered by the accessibility of infrastructure which is inadequate by design, thus disabled people have no access to infrastructure services as they are often poorer, have no education, no job, live in poor housing conditions which lower their functioning capacity.

**Table 17: PWDs and Involvement in Socioeconomic Activities ANOVA Results**

Correlation Matrix

		NO RESPONSE	NOT SURE	NO	YES
NO RESPONSE	Pearson's r	—			
	95% CI Upper	—			
	95% CI Lower	—			
NOT SURE	Pearson's r	0.748	—		
	95% CI Upper	1.000	—		
	95% CI Lower	-0.589	—		
NO	Pearson's r	0.529	0.949*	—	
	95% CI Upper	1.000	1.000	—	
	95% CI Lower	-0.784	0.172	—	
YES	Pearson's r	-0.626	-0.977	-0.993	—
	95% CI Upper	1.000	1.000	1.000	—
	95% CI Lower	-0.983	-0.999	-1.000	—

Note.  $H_a$  is positive correlation

Note. \*  $p < .05$ ,

The findings indicate a positive correlation between the pwards involvement in socioeconomic

activities and the barriers to them, thus rejecting the hypothesis in that public infrastructure does not have a significant influence on persons with disability participation in socio-economic development.

### **The Role of Cultural Practices on Persons with Disability Inclusion in Socio Economic Development Activities in Seme Sub County.**

This section presents data on cultural practices that influence the PWDs participation in development activities in Seme Sub County.

**Table 18: Cultural Practices Responders**

	Male	Female	Urban	Rural	Physical	Audio- Visual	Mental	Family	Work	School	Commuinty	Yes	No	Total
Gender	128	80												208
Habitation			60	148										208
Disability Type					128	25	5							208
Stigma Talk								65	120	150	204			208
Commuinty Activities												147	61	208
Freedom Of Movement												120	88	208
Support From State Inst.												124	84	208

The study sought to establish the cultural practices and established that 128 persons representing 61% of the respondents were male and 39% were female with 71% of the respondents living in rural areas. The study further established through segregation that family, workmates, school, and community environments were environments where pwds experienced cultural stigma through, word of mouth, action from members, and intimidation. When asked if they had ever been talked to about your disability as a point of reference or reminder 65 representing 31% had experienced in the family they lived in, 57% (120) indicated they had experienced at work, 72% (150) indicated they had experienced n school with a majority 61%(204) indicating they had experienced in the community. Indeed, thus all confirmed they had experienced in all but in varying percentages / degrees as explains.

When asked if they (PWDS) were freely allowed to engage in community development activities 147 (71%) acknowledged that they were while 61 (39%) stated they were not allowed. This finding indicate that they can be allowed to participate in they were not stigmatized, and if they were not looked down upon by society and the study will further display in the table below.

**Table 19: Cultural Stigma On PWDs**

Descriptive

	TOTAL	N	Median	Minimum	Maximum	Percentiles	
						50th	75th
FAMILY	208	1	65	65	65	65.0	65.0
WORK		1	120	120	120	120.0	120.0
SCHOOL		1	150	150	150	150.0	150.0
COMMUNITY		1	204	204	204	204.0	204.0

The table above shows that 65 persons exhibited stigma and intimidation from family members, where they lived. 120 of the respondents out of 208 indicated that they experienced stigma, intimidation at their place's of work, in school 150 members of the respondents indicated that the school environment occasioned intimidation and stigma, this was driven by the fact that the schools were not specialized schools catering for learners and persons with disability. The community exhibited the highest number of respondents with 204 indicating that they were stigmatized and looked down upon.

**Table 18. Cultural and Stigma Influence on PWD by locality**

Binomial Test on cultural influence on PWDs in the following locality

	Level	Count	Total	Proportion	p
COMMUNITY	1	204	204	1.000	< .001
FAMILY	1	65	65	1.000	< .001
WORK	1	120	120	1.000	< .001
SCHOOL	1	150	150	1.000	< .001

Note.  $H_a$  is proportion  $\neq 0.5$

The Table above when testing the hypothesis that cultural practices do not have a significant influence on pws involvement in socio economic activities is thus rejected when  $H_a$  is proportion

$\neq 0.5$  when  $p < .001$

The study established that education levels influenced the involvement of persons with disability in the development projects. This was because the institutions that provide special education are either few or too far away from the homesteads. The learners in these institutions were also not well accustomed to the PWDS and adaptive measures were not in place for the learners. Teaching staff with expertise in handling various challenges faced with PWDs in regular learning institutions were not available making the learning not gain knowledge that contributes to their human and social development. The infrastructural changes coursing subject to the 2010 Kenya Constitution is having a positive impact on the learner's attendance and access to buildings, social amenities and public places albeit at a slow pace. Several public buildings including schools do not have secure guard rails and secure walk ways for persons with various forms of impairments including guided walking. Of all the public spaces the buildings designated to be inclusive were all found to be government buildings and with less movement spaces. From the study, it was established that cultural influences imparted negatively on public access, participation and engagement with persons with disability. Further observations and suggestions concerning the improvement of involvement of persons with disability in socioeconomic development activities consists of understanding cultural dogma and attributes associated with persons with disabilities that is required in the twenty-first century particularly with regards to public health laws, human rights and the attainment of the sustainable development goals. Therefore, involvement of PWDs in socio economic activities is exposed as an important aspect towards humanity and social incision that drives a holistic development with its subcategory's contribution being highlighted.

### **Conclusion and Recommendations**

Support organizations should be encouraged through the legislative structures to invest in the Seme sub-county to support the county government develops PWDs friendly infrastructure like guide rails, labeled structures, rumps, conducive staircases, and other resources to ease persons with a disability participation in community activities such as meetings and facility access. Persons with disabilities should be empowered with training opportunities and literacy classes to help them have the ability to understand their mandate in community participation towards policy formulation and legislative representation. This will help the disabled to conceptualize the issues better and have meaningful participation in the sub-county programs and national development. Communities should be encouraged to have inclusive representation of both genders with any form of disability in leadership positions. Administrative functional offices should ensure discrimination, stigmatization, and alienation of PWDs are not advanced within the sub-county.

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