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Dr. Manoj Kumar

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FOREWORD

I am pleased to put into the hands of readers Volume-3; Issue-1: 2021 (Jan-Feb, 2021) of “**Journal of Humanities and Education Development (JHED) (ISSN: 2581-8651)**”, an international journal which publishes peer reviewed quality research papers on a wide variety of topics related to, Humanities and Education development. Looking to the keen interest shown by the authors and readers, the editorial board has decided to release print issue also, journal issue will be available in various library also in print and online version. This will motivate authors for quick publication of their research papers. Even with these changes our objective remains the same, that is, to encourage young researchers and academicians to think innovatively and share their research findings with others for the betterment of mankind. This journal has DOI (Digital Object Identifier) also, this will improve citation of research papers.

I thank all the authors of the research papers for contributing their scholarly articles. Despite many challenges, the entire editorial board has worked tirelessly and helped me to bring out this issue of the journal well in time. They all deserve my heartfelt thanks.

Finally, I hope the readers will make good use of this valuable research material and continue to contribute their research finding for publication in this journal. Constructive comments and suggestions from our readers are welcome for further improvement of the quality and usefulness of the journal.

With warm regards.



Dr. Manoj Kumar

Editor-in-Chief

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Consumer Preference Analysis between Local and Imported Rice Consumption in Adamawa State, Nigeria

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Abstract— The study was conducted in Adamawa state Nigeria. The objective was to analyze consumers' preference between local and imported rice in the area. A sample of 128 House Holds Heads (HHHs), were drawn using multi-stages, purposive and simple random sampling techniques. Primary data was generated using structured questionnaire administered to 128 HHHs. However, only 120 were retrieved and subjected to both descriptive and inferential statistics. The descriptive statistics includes frequency count, percentages and means while chi – square analysis was used to test the hypothesis of the study which was stated in a null form, that local rice is better than the imported rice based on certain attributes such as price, swelling capacity, taste, cleanliness, cooking duration, color, odor, grain shape and in the preparation of different recipe. The results revealed that, majority (66.66%), of the consumers prefer local rice based on it lower price and taste respectively while majority (83.34%), (75, 00%) and (66.66%) agreed that imported rice is better in terms of cleanliness, pleasant odor and grain shape. Similarly, rice consumers concur (50%) and (50%) on the cooking duration attributes of both local and imported rice respectively in the area. The study therefore, concluded that, imported rice is better than the local rice based on the percentages and chi – square result which rejected, the null hypothesis, and accepted the alternate (χ^2_{cal} is greater than χ^2_{tab} at probability level (α) $p= (0.05)$ and $(r -1)(c -1)$ degree of freedom. It is recommended that local rice should be improved in respect to it cleanliness, odor and grain shape which are the attributes by which foreign rice is considered better from this study for it to be competitive at national and international market scenes. This could be achieved through improvement in research and adoption of improved production and processing technologies.

Keywords— Consumer, Preference, Imported, Local, Rice.

I. INTRODUCTION

Rice (*Oryza Sativa*, and *Oryza glaberrima*,) is an important food crop that is consumed by more than 50 percent of the world population which is put at about 4.8 billion people resident in 176 countries with an estimated 2.89 billion people in Asia, 150.3 million people in America and over 40 million people in Africa as reported by International Rice Research Institute (IRRI, 2004). Ojehomon *et al.* (2009) reported Nigeria doubles as the largest rice producing and consuming nation in West African sub-region for the past ten years. The planting of rice covers about 146 million hectares of land annually representing about 11 percent of

the world cultivated land (Kassali *et al.*, 2010). It is the fastest growing staple food item in most African countries, providing the bulk of dietary energy to the growing population. In most developing countries in Africa, rice accounts for 715 kcal /caput/day, 27 percent of nutritional supply of energy, 20 percent of nutritional protein and 3 percent of nutritional fat (Kassali *et al.*, 2010).

Rice is an important annual crop in Nigeria been a major staple, which can provide the nation's population with the nationally required food security minimum of 2,400 calories per person per day as reported Food and Agriculture Organization (FAO, 2014). The average Nigerian consumes

24.8 kg of rice per year, representing 9 per cent of annual calorie intake (IRRI, 2011). Due to its increasing contribution to the per capita calorie consumption of Nigerians, the demand for rice has been increasing at a much faster rate than domestic production and more than in any other African countries since mid-1970s (FAO, 2014). For instance, during the 1960s, Nigeria had the lowest per capita annual consumption of rice in the West African sub-region with an annual average of 3 kg. Since then, Nigeria's per capital consumption levels have grown significantly at 7.3 per cent per annum. Consequently, per capital consumption during the 1980s increased to an annual average of 18 kg and reached 22 kg between 1995-2000 and 38kg between 2010 and 2016 (FAO, 2017).

As a response to the prevailing rice supply deficit situation in Nigeria, successive Nigerian governments intervened in the rice sector by increasing tariffs on imported rice so that local production could be encouraged. This was expected to widen the home market for the nation's local rice. The Government also established the Federal Rice Research Station (FRRS) at Badeggi in 1970 and the National Cereal Research Institute (NCRI) in 1974. Also established were the National Seed Service (NSS) with the assistance of the Food and Agriculture Organization in 1975, and Operation Feed the Nation (OFN) in 1976. Other government program were the River Basin Development Authority (RBDA), Agricultural Development Projects (ADP^s), the National Grain Production Programs (NGPP), the Structural Adjustment Program (SAP), and the Presidential Initiative on Increased Rice Production, Processing and Export. The last mentioned program, was aimed at addressing the ever widening demand supply gap for rice and stimulating surplus rice harvest for export by the year 2007. The implementation of this initiative started in 2004 under which rice boxes containing 10 kg of rice seeds and agrochemicals for 0.25 hectares were sold to farmers in each state at N3, 500.00 per box (Bamidele *et al.*, 2017)

The idea was to encourage farmers in each participating state to cultivate rice on at least 250 hectares of land. This initiative has thus, encouraged farmers to go into the production of rice. The emergence of the VEETEE rice company was another way to boost local rice production in Nigeria. The company has initiated a rice out-growers scheme with farmers to boost domestic output. The company has the facilities for destining and polishing rice in addition to basic milling which gave high quality local rice (FAO, 2004). The fact however remains despite various restrictions including a recent total ban on the importation of the

commodity, foreign rice is still found in the Nigerian markets.

Consequently, it becomes imperative to conduct a study to ascertain the reasons for the continued presence and preference for imported rice in the Nigerian markets today sixteen years after the implementation of Presidential Initiatives on Increased Rice Production, Processing and Export.

Consumer Preference between local and imported rice is usually anchored on certain attributes such as pricing, taste, swelling capacity, cooking duration, cleanliness, odor/aroma, color, grain shape and suitability for different recipe among others which provides the greatest level of satisfaction as described by the consumers. However, there is dearth of information on regarding these attributes and how they influence consumer preference in Adamawa State, Nigeria even though there were few studies elsewhere but consumers are very much constrained in their choice of rice due to inadequate information.

Questions this study seeks to provide answer therefore were: what are the attributes consumers consider when making a choice between local and imported rice in the area? What is the pattern of rice consumption? Are the pattern of consumption and the attributes of rice governing preferences similar to other areas previously studied?

Objectives

The major objective of the study was to analyze the consumer's preference between local and imported rice in the area. Specific objectives were to; identify attributes which consumers based their decision between consuming imported or local rice in the area, describe rice consumption pattern in the study area and based on the results compare the findings with other previous studies elsewhere

Hypothesis

The hypothesis for the study stated in a null form (Ho) was that local rice is preferred than the imported rice based on certain attributes in the study area.

II. MATERIALS AND METHOD

The Study Area

Adamawa State located in the North Eastern part of Nigeria between latitude 7° and 11° N and Longitude 11° and 14° E. It shares boundary with Taraba State in the south and west, Gombe State in its North-west and Borno State to the North. The State has an international boundary with the Cameroon

Republic along its eastern side. It has a land area of about 38,741 km² (Adebayo, 1999). The State is divided into 21 Local Government areas. Adamawa State has a tropical wet and dry climate. Dry season lasts for a minimum of five months (November-March) while the wet season spans April to October (Adebayo, 1997).

The State is naturally divided into two ecological zones; the guinea and Sudan savannah zones. In general, the distribution of vegetation reflects the combined control of rainfall, topography and to a lesser extent, that of soils. Agriculture is the mainstay of about 80% of the inhabitants of the State. The ecological condition of the State permits cultivation of root crops, cereals and rearing of livestock in large numbers.

Maximum temperature is as high as 40°C especially between March and April with a minimum temperature as low as 18°C between December and January. This temperature range is good for rice enterprise especially during grain formation and during drying after parboiling among small scale rice millers. The relative humidity between January and March ranges from 20-30% and reached a peak of 80% in August and September (Adebayo, 1997). The mean annual rainfall is about 1000 mm, which allow the cultivation of

rice and other crop such as ground nut, guinea corn, cowpea and vegetable of different kinds (Adebayo, 1997).

Sampling Techniques

Multi stage, purposive and simple random sampling techniques were used for the study. The first stage involved consideration of the 4 Agricultural zones demarcated by Adamawa State Agricultural Development Project (ADP) Namely, Zone I, II, III and IV respectively. The second stage involved purposive selection of 21 Local Government Areas (LGAs) from each zone making a total of 8 LGAs. The third stage involved purposive selection of one Urban/ Peri -Urban settlement and one rural settlement from each LGA; this gave a total of 16 settlements in the state.

The fourth stage involved collection/generation of lists of households in each of the ward (settlements) from the districts head office which serve as the sampling frame. The last stage involved simple random selection of 8 households' heads from the 16 wards (settlements) from the list which served as the sample size which gave a total of 128 respondents which served as the sample size for the study (see table 1). It should be noted, that the population of the study supposed to be all the household heads in the study area, however this will be too large and cumbersome to handle.

Table 1: Showing sampling distribution of respondents according to zones, local government areas and wards

Zones	Local Government Areas	Wards	Households	Sample Households Heads
Zone I	Mubi – North	Yelwa	419	8
		Mayo - bani	97	8
	Mubi – South	Nassarawo	274	8
		Mujjara	142	8
Zone II	Gombi	Gombi –North	149	8
		Garkida	55	8
	Song	Song Gari	240	8
Zone III	Yola- south	Zumo	106	8
		Adarawo	188	8
	Fufore	Ngurore	336	8
		Ribadu	562	8
Zone IV	Numan	Numan	119	8
		Imburu	68	8
	Lamurde	Lafiya	119	8
		Gyawana	180	8
Total				128

Source: Field survey, 2019.

Data Collection

Data for the study was generated from primary source. Primary data was collected from rice consumers identified at the households levels through the use of structured questionnaire administered to Households Heads. Information captured were on attributes which consumers consider when consuming rice and rice consumption patterns.

Data Analyses

Data collected was subjected to descriptive and inferential analyses. The descriptive statistics includes frequency counts, percentages and means. The inferential statistics is the Chi – square.

Descriptive statistics

Frequency count, this is achieved by taking count of any observation. Percentage is obtained by taking the share of each observation from the total distribution and multiplying by 100. The result is presented in table 2.

Table 2: Preference distribution between local and imported rice based on some selected attributes

Attributes	Local		Imported		Total	
	Frequency	%	Frequency	%	Frequency	%
Character of price desired	80	66.66	40	33.34	120	100
Character of swelling capacity desired	70	58.33	50	41.67	120	100
Character of taste desired	80	66.66	40	33.34	120	100
Character of cleanliness	20	16.66	100	33.34	120	100
Character of cooking duration desired	60	50.00	60	50.00	120	100
Character of color desired	20	16.66	100	33.34	120	100
Character of odour desired	30	25.00	90	75.00	120	100
Character of grain shape desired	40	33.34	80	66.67	120	100
Character of suitability of recipe	50	41.67	70	58.33	120	100

Source: Survey data, 2019

III. DISCUSSION

Table 2 presents analysis of local and imported rice based on price. It revealed that majority (66.66%) of the rice consumers prefer local rice based on price. This shows that local rice is preferred to imported rice due to its relative cheapness to imported rice in the area. The decision to buy local rice could be due to it cheaper priced relative to imported rice which is usually expensive and not minding the quality. Mhalaga (2010) in his study conducted on economic analysis of consumer based attributes for rice in Benin republic, reported that, both domestic and imported rice have positive and negative implicit prices implying that the quality of a product attract price. Higher quality, attract good price and vice versa. The result also reported that, there is a statistically significant difference between the mean price for imported and domestic rice ($t = 9.7937$ and $p =$

0.0000). Ariff and Ayob (2017) also in a study conducted in Kelantan, Malaysia, on preference of consumer toward imported and local rice, reported that, the economic value of a commodity is revealed by the consumers' willingness to pay for the commodity.

The table present results on consumer preference based on swelling capacity of rice. It revealed that majority (58.33 %) of the consumers prefer local rice than the imported due it high swelling capacity relative to import. This implied that consumers based their decision to consume local rice based on it higher swelling capacity.

The table present result on rice consumer preference based on taste attribute. It found that majority (66.66%) of rice consumers in the area prefer local rice to imported rice based on it taste implying that, consumers based their decision to buy local rice to imported rice due to it taste. Opeyemi *et.*

al., (2015) in their study on analysis of consumers preference in patronizing locally produced and imported rice in Niger state Nigeria, reported that, taste of rice ranked 4th among the determinants of rice consumption in the area.

The table present result on consumers preference based on cleanliness of rice. It revealed that majority (83.33%) of rice consumers in the area prefer imported rice to local rice because of cleanliness implying that consumers based their decision to buy imported rice relative to local rice in the area due to it cleanliness attribute.

The table present result on consumers preference based on cooking duration. It found that 50% and 50% of consumers respectively prefer local and imported rice in terms of cooking duration attribute in the area. This implies that, they don't see any difference in terms of cooking duration. Therefore, they based their decisions considering other attributes rather than cooking time.

The table present result on consumers preference based on color appeal attributes. It revealed that majority (83.33%) of the rice consumers in the area prefer imported rice to local rice in terms of color attributes. This implies that consumer based their decision to buy imported rice against the local rice based on it color which is brighter than the local rice.

The table present result on consumers preference based on perceived odor between local and imported rice. It found that majority (75.00%) of the consumer prefer imported rice to local rice based on it perceived odor implying that rice consumers in the area based their decision to consume rice due to its presence or absence of unpleasant odor. Therefore, the imported rice is prefer to local rice due to it pleasant aroma.

The table present result on consumers preference based on grain shape. It found that majority (66.67%) of the

consumers prefer imported to local rice in terms of it grain shape implying that imported rice has uniform size than the local rice. This shows imported rice consumers based their decision to purchase imported rice based on it grain shape.

The table present result on suitability of recipe/preparation. It found that majority (58.37%) prefer imported to local rice in terms of preparation of different types of recipe. This implies that rice consumers in the area based their rice purchase decision of imported rice due to it suitability for preparing default recipe.

Mhalaga (2010) in his study conducted on economic analysis of consumer based attributes for rice in Benin republic, reported that, consumers are becoming more aware of the quality of attributes of different commodities found in the market and are choosing products that closely match their taste and preferences. He further reported that consumers pay a premium for grain size, aroma, color, wholeness and cleanliness of grains and cooking conveniences attributes across different region studied.

Chi – square analysis

Chi – square analysis was used to test the hypothesis for the study which was stated in a null form that local rice is preferred than the imported rice based on certain attributes in the study area

The formula for the Chi – square is presented below:

$$x^2 = \sum \frac{(o-e)^2}{e}$$

Where:

$x^2 =$ chi-square

o = observe response

e = expected response

Table 3: Chi- square distribution of attributes influencing Local and imported rice consumption

Attributes	(o –e)	(o –e) ²	$\frac{(o-e)^2}{e}$
Character of price desired	20	400	6.66
Character of swelling capacity desired	10	100	1.66
Character of taste desired	20	400	6.66
Character of cleanliness	- 40	1600	26.66
Character of cooking duration desired	15	225	3.75

Character of color desired	- 40	1600	26.66
Character of odour desired	- 30	900	15.00
Character of grain shape desired	-20	400	6.66
Character of suitability of recipe	10	100	1.66

$$\sum \frac{(o-e)^2}{e}$$

e

95.37

Source; Survey data, 2019
Hypothesis Testing

The hypothesis test was conducted at probability level (alpha) = 0.05. Degree of freedom DF (r - 1)(c-1)

$$n = 9, DF = 8$$

$$x^2 \text{ calculated} = 95.37$$

$$x^2 \text{ tabulated} = 15.51$$

Decision Rule

The calculated Chi-square (x^2) is greater than the tabulated, so we reject the null hypothesis and accept the alternate. We therefore conclude that imported rice is better than the local rice based on certain attributes in the study area (there is significant difference statistically at 0.05 level of significant and $df = (r - 1)(c - 1)$).

IV. CONCLUSION

The study therefore, concluded that, rice consumers prefer imported rice against the local rice basically because of it cleanliness, pleasant appeal and grain shape.

RECOMMENDATION

It is recommended that local rice should be improved in respect to it cleanliness, odor and grain shape for it to be competitive in the national and international market scenes.

This could be achieved through improvement in research and adoption of improved production and processing technologies.

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Fig. 1: Map of Adamawa State showing study area

Source: Adebayo and Tukur (1999)

Analysis of Attributes determining Consumption of Rice in Adamawa State, Nigeria

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Abstract— The study was conducted in Adamawa State, Nigeria between June to November, 2019. The objective of the study was to investigate attributes which rice consumers consider when purchasing a particular type of rice. Specifically, it identifies attributes which local and imported rice consumers consider when choosing a particular rice type and examine the level of significant of these attributes in influencing choice of rice consumed in the area. The population of the study involved all the households in Adamawa State. However, the research used a sample size of 128 House Hold Heads (HHHs) for the work. Primary data was generated from the respondents through a well-structured questionnaire; however, only 120 questionnaires were retrieved and successfully used to accomplish the objective of the study. Logit regression and ordinary least square models were used to analyzed the data. The results revealed that consumers consider price of rice, swelling capacity, odor, suitability of recipe, cooking duration, taste, shape, and cleanness of a particular rice grain as an attribute before choosing a rice type as this was explained by pseudo R^2 0.928 obtained from the logit model. The study concludes that, rice attributes such as swelling capacity, suitability of recipe, cleanliness, grain shape, cooking duration and aroma as well as taste significantly had effects in deciding type of rice to consume by rice consumers in Adamawa State as at the period of study. The study recommends that, any rice to be marketed in the area must be clean and free from unpleasant odor, have good shape, good swelling capacity, taste and suitable for preparation of different recipe. This can be achieved through improvement in research and use of modern processing technologies for both production and processing of rice.

Keywords— Logit, Regression, Local, Imported, Rice, Consumers, Attributes.

I. INTRODUCTION

Rice is globally utilized in one form or the other (Isa *et al.*, 2013). It is also considered as one of the food items in Nigeria whose consumption does not have cultural, religious, ethnic or geographical boundary (Opeyemi, *et al.*, 2015).

The main concern is the rate at which rice consumption is increasing at an alarming rate. Central Bank of Nigeria (CBN, 2006), reported that, the country spends over N365 Billion yearly to import rice, indicating an average of N1 Billion daily (CBN, 2006), a situation which perhaps forced the Federal Government of Nigeria (FGN) to look inward toward encouraging domestic production in order to minimize rice importation and improve the food security situation in Nigeria. Nevertheless, increasing domestic

output without corresponding domestic demand of rice is envisaged as a problem that needs to be addressed. Consequently, it has been well speculated that domestic production of good rice might increase availability and make it relatively affordable than the imported rice whose price is at the moment higher. Therefore, achieving both quantity and quality improvement may lead to higher incomes for farmers and investors, might create more livelihood, generate employment along the value chain, reduce poverty and guaranteed food security should be given immediate attention (Lancorn, *et al.*, 2003).

Rice consumption in Nigeria has improved because it has become part of the main diet in every Nigerian home due to it's the preparation convenience and suitability for many dishes. What remains is understanding rice attributes

which consumers consider in selecting a particular type of rice to consume?

In an effort geared toward achieving this, literature reviewed such as Ogundele *et al.* (2014), reported that a range of diverse socio-cultural factors are underlining the consumption pattern and consumers preference for rice in Nigeria. They asserted that, these factors vary across the various geo-political zones in the country. Similarly, same report contained that, physical and organoleptic characteristics of rice play significant role in determining the different types of menu that can be prepared from rice. Bamidele *et al.* (2010), for instance, referred to rice as an important annual crop in Nigeria and a major staples, that can supply a nation's population with the nationally, required food security minimum of 2,400 calories per person per day. They further reported that an individual consumer has a set of preferences and attached values toward a particular rice (either a local or imported) which might depend upon income, education, tastes, price and other factors.

The foregoing has raised the interest of the researchers to embark on this study with the hope of evaluating the various attributes which rice consumers considered when purchasing rice because such information will be valuable in determining the choice of either local or imported rice by consumers in the area and it is necessary not only for the purpose of rice quality improvements but also for strategic planning of rice sector in Adamawa state in particular and Nigeria at large.

This study was set out to provide answer to the following questions;

What are the attributes which rice consumers consider in purchasing/consuming a particular type of rice in the study area? How significant /relevant are these attributes in choosing rice (decision making) in the study area.

Objective

The broad objective of this research was to investigate attributes which local and imported rice consumers in the area consider when choosing a particular type of rice. Specific objectives were to: identify attributes which local and imported rice consumers consider when choosing/selecting a particular rice type and to examine the level of significant of these attributes in influencing choice /decision of rice consumed in the area.

II. MATERIALS AND METHOD

The Study Area

Adamawa State located in the North- Eastern part of Nigeria latitude 7° and 11° N and Longitude 11° and 14° E. It shares boundary with Taraba State in the south and west,

Gombe State in its North-west and Borno State to the North. The State has an international boundary with the Cameroon Republic along its eastern side. It has a land area of about 38,741 km² (Adebayo, 1999). The State is divided into 21 Local Government areas. Adamawa State has a tropical wet and dry climate. Dry season lasts for a minimum of five months (November-March) while the wet season spans April to October (Adebayo, 1997).

The State is naturally divided into two ecological zones; the guinea and Sudan savannah zones. In general, the distribution of vegetation reflects the combined control of rainfall, topography and to a lesser extent, that of soils. Agriculture is the mainstay of about 80% of the inhabitants of the State. The ecological condition of the State permits cultivation of root crops, cereals and rearing of livestock in large numbers.

Maximum temperature may reach as high as 40°C especially between March and April with a minimum temperature as low as 18°C between December and January. This temperature range is good for rice enterprise especially during grain formation and during drying after parboiling among small scale rice millers. The relative humidity between January and March ranges from 20-30% and reached a peak of 80% in August and September (Adebayo, 1997). The mean annual rainfall is about 1000 mm, which allow the cultivation of rice and other crop such as ground nut, guinea corn, cowpea and vegetable of different kinds (Adebayo, 1997).

Sampling Techniques

Multi stage, purposive and simple random sampling techniques were used for the study. The first stage involved consideration of the 4 Agricultural zones demarcated by Adamawa State Agricultural Development Project (ADP) Namely, Zone I, II, III and IV respectively. The second stage involved purposive selection of 2 Local Government Areas LGAs from each zone making a total of 8 LGAs.

The third stage involved purposive selection of one Urban/ Peri -Urban settlement and one rural settlement from each LGA; this gives a total of 16 settlements in the state.

The fourth stage involved collection of list of households in each of the ward (settlement) from the districts head office which serve as the sampling frame.

The last stage involved simple random selection of 8 households' heads from the 16 wards from the list generated which served as the sample size which gave a total of 128 respondents for the study. It should be noted, that the population of the study supposed to be all the household heads in the study area, however this will be too large and cumbersome to handle.

Table 1: Showing sampling distribution of respondents according to zones, local government areas and wards

Zones	Local Government Areas	Wards	Households	Sample HHHs
Zone I	Mubi – North	Yelwa	419	8
		Mayo - bani	97	8
	Mubi – South	Nassarawo	274	8
		Mujjara	142	8
Zone II	Gombi	Gombi –North	149	8
		Garkida	55	8
	Song	Song Gari	240	8
		Zumo	106	8
Zone III	Yola- south	Adarawo	188	8
		Ngurore	336	8
	Fufore	Fufore	562	8
		Ribadu	119	8
Zone IV	Numan	Numan	319	8
		Imburu	68	8
	Lamurde	Lafiya	119	8
		Gyawana	180	8
Total				128

Source: Field survey, 2019.

Data Collection

Data for the study was generated from primary source. Primary data was collected from rice consumers identified at the households levels through the use of structured questionnaire administered to Households Heads. Information captured was on attributes which consumers consider when purchasing rice.

Data Analyses

Data collected were subjected to inferential analyses. The inferential statistics is the multiple logit regression.

Logit Regression

The measure of these values in this model for particular rice is in terms of the real opportunity cost to the consumer who purchases and consumes the goods than the opportunity cost of those purchase forgone goods which the consumer could have bought instead. The level of satisfaction that consumer obtains from consuming local or imported rice depends on consumer preference.

Logit regression is one of the binary choice model in which the dependent variable takes a value of 1 or 0. The logit model analyzed qualitative data reflecting a choice

between two alternatives. The logit model ensured prediction of probability between two alternatives. The Logit regression model for attributes which consumers consider while purchasing rice is presented below:

$$Y = a_0 + a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4 + a_5X_5 + a_6X_6 + a_7X_7 + a_8X_8 + a_9X_9 + u_i \dots\dots\dots(1)$$

Where;

Y = Rice consumption (Logit) with 1 for Imported and 0 for Local

X₁ to X₉ are characters desired by consumers such as taste, cleanliness, color, grain shape, swelling capacity, price, color and suitability to rice and continental recipe as presented below;

X₁ = character of price desired for local and imported rice

X₂ = character of swelling capacity desired for local and imported rice.

X₃ = character of taste desired for local and imported rice.

X₄ = character of cleanliness desired for local and imported rice.

X₅ = character of cooking duration desired for local and imported rice.

X₆ = character of color desired for local and imported rice.

X₇ = character of aroma/odor desired for local and imported rice.

X₈ = character of grain shape desired for local and imported rice.

X₉ = character of suitability of recipe desired for local and imported rice.

p = probability of success

1-p = probability of failure

III. RESULTS AND DISCUSSION

Logit Model

Table.2: Logistic regression result of rice attributes which rice consumers consider in choosing between local and imported rice in the study area

Rc	Coeff.	Std.Err.	Z	P> Z	95% Conf	Interval
X ₁	-1.310979	.655863	-7.92	0.000	-1.635522	-.9864362
X ₂	.0393739	.0212781	1.85	0.064	-.0023304	.0810782
X ₃	.6407777	.2363652	2.71	0.007	1.104045	.1775104
X ₄	.7351501	.2276488	3.23	0.001	.2889666	1.181334
X ₅	.6890984	.3335912	2.07	0.039	.0352718	1.3342925
X ₆	.5958804	.3565452	1.67	0.095	-.1029354	1.294696
X ₇	.2741774	.5843263	0.47	0.639	-.8710811	1.419436
X ₈	.5667235	.3225025	1.76	0.079	-.0653697	1.198817
X ₉	.6943806	.3334412	2.08	0.037	.0408478	1.347913
/cut1	1.155869	1.017463			.8383212	3.150059

Source: Author’s computation using SPSS, 2019

*(10 variables, 121 observations pasted into data editor)

logit rc X₁ X₂ X₃ X₄ X₅ X₆ X₇ X₈ X₉

Iteration 0: log likelihood = -70.580253

Iteration 1: log likelihood = -68.743451

Iteration 2: log likelihood = -68.728003

Iteration 3: log likelihood = -68.728002

Logistic regression Number of obs = 120

LRchi² (9) = 3.70

Prob >chi = 0.0262

Log likelihood = -68.728002

Pseudo R² = 0.9298

The logit result is presented in table 2 above. It revealed that, all the independent variables have positive effect on the dependent variable except for X₁ which have negative effect on the dependent variable. Comprehensively, the result reveals that X₁ which stands for the price of rice is negative and had significant effect on rice consumption in Adamawa state evidenced by the value of Z-statistics at

95% confidence interval. It shows that it is 1.31times more likely for consumers to shy away from rice consumption as the price of rice increases by a unit and vice versa.

Also, the logit result found that X₂ representing character of swelling capacity desired for local and imported rice has positive effect on rice consumption. It quantitatively shows that, the logit will go up by about 0.039 times should rice

swelling capacity attribute of rice increases by a unit and vice versa. The logit result also found that it is 0.64 times more likely for consumers of rice in Adamawa State to increase their sizes of rice consumption should the desired taste (X_3) for both local and imported rice increases by a unit and vice versa.

Similarly, the logit revealed that X_4 representing cleanliness of rice desired is positively related to the dependent variable meaning that, it is 0.74 times more likely for consumers of rice in Adamawa State to increase their rate of rice consumption should the cleanliness of rice desired by the consumers increases by a unit and vice versa. The result further revealed that X_5 representing cooking duration of rice desired has positive effect on rice consumption. It precisely shows that, it is 0.69 times more likely for rice consumers in Adamawa State to increase their frequency of rice consumption should the cooking duration desired by consumers increase by a unit and vice versa.

Furthermore, the logit result revealed that it is 0.59 times more likely for consumers of rice in Adamawa state to increase their rice consumption level should the color X_6 of rice desired by consumers increase by a unit and vice versa. The Z-statistics value revealed that it is not statistically significant at 5% level of significance; however, it is significant at 10% level of significant. The result further found that, X_7 representing character of aroma/odor desired has positive and insignificant effect on rice consumption meaning that consumers of rice in Adamawa State do not so much pay attention to the aroma/odor of rice they consume since it is not statistically significant both at 5% and 10% level of significance owing to evidence given by the probability of Z-statistics. X_8 which stands for grain shape desired by consumers have positive effect on rice consumption in Adamawa State. The logit revealed that it is 0.57 times more likely for consumers to increase their rice consumption level should the shape of the grain desired increase by a unit and vice versa. The Z-statistics result revealed that, its effect is not statistically significant at 5% level of significant but is significant at 10% level of significant. Also, X_9 standing for suitability of recipe desired has positive and significant effect on rice consumption in Adamawa State. The logit showed that it is 0.69 times more likely for consumers of rice in Adamawa State to increase rice consumption level should suitability of recipe attribute of rice grain whether local or imported be increased by a unit and vice versa.

The Pseudo R^2 which measure the degree of variation in the dependent variable explained by the independent variables put together has a value of 0.93 meaning that about 93% of rice consumption in Adamawa

State is influenced by price of rice, swelling capacity, aroma/odor, suitability of recipe, cooking duration, taste, shape of rice grains, color and cleanliness. The LR statistic result which measure the statistical significance of the effect of all the independent variables on the dependent variable revealed that the overall effect is statistically significant in determining changes in the dependent variable which translate to rice consumption level.

IV. CONCLUSION

The study concludes that, rice attributes such as swelling capacity, suitability of recipe, cleanliness, grain shape, cooking duration and aroma as well as taste among others significantly had effects in deciding type of rice to buy/consume by rice consumers in Adamawa State as at the period of study which covered. Therefore, producers and marketers should pay attention to these attributes.

V. RECOMMENDATIONS

Based on the findings of the study, the researchers recommended the followings:

For any rice to be marketed in the area, it should to be clean, free from unpleasant odor have good shape, good swelling capacity, taste and suitable for preparation of different recipe for it to receive well patronize. In addition to possessing all these attributes, it needs to be relatively cheaper to command good demand. These could be achieved through:

Improvement in research and use of modern technologies for both production and processing of rice will go a long way in increasing quality and therefore should be promoted.

Government and non-governmental organizations should support rice millers to acquire milling skills and facilities. This can be achieved through sensitization and effective capacity building and introduction of affordable credit facilities or grant to the actors.

Attractive packaging technologies should be encouraged to arouse interest on domestic rice. This can be achieved through technical and financial support.

Government policies should be consistent and geared towards encouraging sufficient production and processing of domestic rice in order to compete with other imported rice.

Improving domestic production and consumption will increase livelihood potentials along the rice chain, improve revenue to government through tax collection from rice marketing.

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Analysis of Socio – Economic Characteristics of Rice Consumer's in Adamawa State, Nigeria

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Abstract— The study analyzed socio – economic characteristics of rice consumers in Adamawa State Nigeria. The population of the study involved all the households in Adamawa State. However, the research used a sample size of 128 House Hold Heads (HHHs) for the work. Primary data was generated from the respondents through a well-structured questionnaire, but only 120 questionnaires were retrieved and successfully analyzed to accomplish the study. Descriptive statistics, frequencies and percentages were used to describe the socio-economic characteristics of rice consumers in the state. The result revealed that, majority (62.5%) of the respondents are males, majority (39.1%) aged between 31-40 years and majority (87.5%) were married, majority (50.83%) attended post- secondary education, majority (37.5%) had 6-10 members in their household and majority (41.7%) are engaged in business as major source of livelihood. It also showed that majority (40%) earned at least ₦50, 000 monthly. Similarly, majority (62.5%) spent ₦20, 000 monthly on rice. It also revealed that most of the respondents consumed rice on daily basis and purchased up to 25kg per month. The paper reveals that, rice consumers in the area were younger, married, had moderate family size, they are literate, and majority belong to business class and earning moderate income. The study therefore concludes that rice consumption is promising in the area evident from the consumer's income and monthly expenditure on rice. Despite the great demand potential for rice in the area, it is recommended that, sensitization campaigns on improve patronage of home grown and processed rice will go a long way in increasing the demand for domestic rice.

Keywords— Analysis, Local, Rice, Consumer's, Characteristics.

I. INTRODUCTION

Rice is an important annual crop in Nigeria been one of the major staples, which can provide a nation's population with the nationally required food security minimum of 2,400 calories per person per day according to Food and Agricultural Organization (FAO, 2014). The average Nigerian consumes 24.8 kg of rice per year, representing 9 per cent of annual calorie intake International Rice Research Institute (IRRI, 2011). Due to its increasing contribution to the per capita calorie consumption of Nigerians, the demand for rice has been increasing at a much faster rate than domestic production and more than in any other African countries since mid-1970s (FAO, 2014). For instance, during the 1960s, Nigeria had the lowest per capita annual consumption of rice in the West African sub-region with an annual average of 3 kg. Coincidentally, that was the time when Nigerian was self-sufficient in both production and consumption. Since then,

Nigeria's per capital consumption levels have grown significantly at 7.3 per cent per annum. Consequently, per capital consumption during the 1980s increased to an annual average of 18 kg and reached 22 kg between 1995-2000 and 38kg between 2010 and 2016 (FAO, 2017).

The fact that, rice is consumed globally by at least half of the world population which according to Oyinbo *et al.*, (2013) was estimated to about 5 Billion residing in about 176 countries with different consumption patterns and requirements due to various socio – economic characteristics such as: age, gender, educational background, family size, occupation, income levels and expenditure patterns. The above-mentioned variables might be important in guiding the type and quantity of a commodity to be supplied and demanded and this invariably, will help in planning and policy decisions. Studies conducted on socio –economic characteristics in the other parts of the world were found to be good

determinants of consumption for instance (Zul Ariff, 2007, Ogundele, 2014) conducted a research on consumer preference for rice in Kelantan, Malaysia, he reported that, socio – demographic factors and physical factors show a relationship to local rice. The result revealed that, age, educational level, marital status, gender, and occupation of consumer have a significant impact on consumer preference for local rice. Similarly, Mhlanga, (2010), conducted a research in Benin Republic on economic analysis of consumer based attributes for rice. He found that socio- economic factors are not important in consumer purchasing decision.

Accordingly, Nigeria, which is highly populated with an estimated population of over 200 Million people, spread across 36 states and Federal Capital Territory (FCT), with six Geo – Political and seven hundred and seventy four (774) Local Government Areas (LGAs). One should expect diversity across so many issues including agricultural commodities consumption. For instance, a particular food item might be highly demanded due to certain factors in one area and little of it might be demanded elsewhere because of other factors. Therefore, any efforts to studying socio – economic factors and how they determine consumption is desirable and this constitute the background of this study analysis of socio – economic characteristics of rice consumers in Adamawa state Nigeria. Therefore, in an attempt to understand how some factors influence rice consumption in the area, the researcher provided answer to; what are the socio – economic characteristics of rice consumers in Adamawa state, Nigeria. The answers might be relevant to existing and potential rice actor, policy makers and development planners in taking decision.

Objective of the Study

The specific objective of the study was to analyze socio – economic characteristics of rice consumers in Adamawa state, Nigeria.

II. MATERIALS AND METHOD

The Study Area

Adamawa State is located on latitude 7° and 11° N and Longitude 11° and 14° E. It shares boundary with Taraba State in the south and west, Gombe State in its North-west and Borno State to the North. The State has an international boundary with the Cameroon Republic along

its eastern side. It has a land area of about 38,741 km² (Adebayo, 1999). The State is divided into 21 Local Government areas and has a tropical wet and dry climate with dry season period ranging from November-March while the wet season spans April to October (Adebayo, 1997).

Agriculture is the mainstay of about 80% of the inhabitants of the State and the ecological condition of the State permits cultivation of root crops, cereals and rearing of livestock in large numbers.

Maximum temperature might reach as high as 40°C especially between March and April with a minimum temperature as low as 18°C between December and January. This temperature range is good for rice enterprise especially during grain formation and during drying after parboiling among small scale rice millers. The relative humidity between January and March ranges from 20-30% and reached a peak of 80% in August and September (Adebayo, 1997).

The mean annual rainfall is about 1000 mm, which allow the cultivation of rice and other crop such as ground nut, guinea corn, cowpea and vegetable of different kinds (Adebayo, 1997).

Sampling Techniques

Multi stage, purposive and simple random sampling techniques were used for the study. The first stage involved consideration of the four (4) Agricultural zones demarcated by Adamawa State Agricultural Development Project (ADP) Namely, Zone I, II, III and IV respectively. The second stage involved purposive selection of two (2) Local Government Areas (LGAs) from each zone making a total of eight (8) LGAs. The third stage involved purposive selection of one (1) Urban/ Peri - Urban wards and one (1) rural ward (settlements) from each LGA which gave a total of 16 wards in the state. The fourth stage involved collection of lists of households in each of the ward from the districts head office which serve as the sampling frame. The last stage involved simple random selection of 8 households' heads from the 16 wards according to the list collected (sampling frame). Finally, a total of 128 respondents were obtained as the sample size. The sampling distribution of the respondents is presented below:

Table 1: Showing sampling distribution of respondents according to zones, local government areas and wards

Zones	Local Government Areas	Wards	Households	Sample Households Heads
Zone I	Mubi – North	Yelwa	419	8
		Mayo - bani	97	8
	Mubi – South	Nassarawo	274	8
		Mujjara	142	8
Zone II	Gombi	Gombi –North	149	8
		Garkida	55	8
	Song	Song Gari	240	8
		Zumo	106	8
Zone III	Yola- south	Adarawo	188	8
		Ngurore	336	8
	Fufore	Fufore	562	8
		Ribadu	119	8
Zone IV	Numan	Numan	319	8
		Imburu	68	8
	Lamurde	Lafiya	119	8
		Gyawana	180	8
Total			3,373	128

Source: Field survey, 2019

Data Collection

Data for the study was generated from primary source. Primary data was collected from rice consumers identified at the household's level through the use of structured questionnaire administered to Households Heads. The survey questionnaire was designed to gather information on the socio-economic characteristics of the respondents including, age, education, gender, income, household size, marital status and household expenditure.

Data Analyses

Data collected was subjected to descriptive analyses. Descriptive statistics used were means, frequency count, and percentages. Descriptive statistics as scientific methods for collecting, summarizing, presenting and analyzing data was utilized in drawing valid conclusions

and making reasonable decisions based on the results from the data analyzed.

III. RESULTS AND DISCUSSION

Socio-Economic Characteristic of Local and Imported Rice Consumers

The socio economic characteristics considered includes; sex, age, educational background, working status, monthly income, and weekly spending on rice.

Gender of the respondents

Table 2: Presents result on the sex distribution of the respondents. It found that majority (62.5%) of the respondents are male while the remaining 37.5% are females. This showed that most of the respondents are males.

Table 2: Gender distribution of the respondents

Gender	Frequency	Percentage (%)
Male	75	62.5
Female	45	37.5
Total	120	100

Source: Field survey, 2019

This implied that males dominate as households heads (HHHs) in the area. This does not necessarily mean that males consume more rice than the females in the communities surveyed, but could be due to the fact that, the male folk hold are responsible for taking care of the family in the area which might be due to religious doctrines and culture where females are mostly under purdah. This result is not in agreement with the findings of Oyenemi (2014) who found in his research work that females form greater percentage of his respondents. He further lamented that female headed household are likely to be more conscious of the quality and the combination of different variety of food consumed by the household than

males' households. One can therefore deduced that male might likely go for lower quality while females go for higher quality rice.

Age of the respondents

Table 3: Presents age distribution of the respondent. It found that majority (39.17%) of the respondents were between the age of 31 to 40 years while 36.7% of the respondents were between the age of 41 and 50 years. Similarly, 19.17% of the respondents were between the age bracket of 21 to 30 years while 5% of the respondents were 51 years and above.

Table 3: Age distribution of the respondents

Age	Frequency	Percentage (%)
21-30	23	19.17
31-40	47	39.17
41-50	44	36.7
51-60	6	5
Total	120	100

Source: Field survey, 2019

This showed that most of the respondents are younger because up to 60 percent fall within the age bracket of 21 to 40 years old. This age bracket constitutes the most active and productive stage and greater percentage of labor force is expected from this category of people. The need for energy supply from food rich in carbohydrates and other nutrients is very important to support work which rice is considered appropriate because of its high energy potentials as reported by Kasali *et al.* (2010). Similarly, the fact that this age bracket dominate in the study area does not conclude that they are the major consumer's, other factors such as been the major households heads could be the reasons. This result is not in agreement with the findings of Olorunfemi (2014) who found that people of

the age of 49 years were the major consumers of rice in his study. However, it is in agreement with Ariff (2017) who conducted a research on preference of consumer towards imported and local rice in Kelantan State, Malaysia and reported that that the largest portion (50.6%) of the respondents aged 25 years and below often decided rice purchasing.

Marital status of the respondents

Table 4: Presents result on the marital status of the respondents. It found that majority (87.5%) of the respondents were married, 8.33% of the respondents were single, while 4.17% of the respondents were of the category of widows and divorcees.

Table 4: Distribution of the respondents according to marital status

Marital Status	Frequency	Percentage (%)
Single	10	8.33
Married	105	87.5
Widows	5	4.17
Total	120	100

Source: Field survey, 2019

This implied that, majority of the respondents were married. However, this does not mean that married people are the ones that consume rice most in Adamawa State. It might be because they are the ones that are usually responsibility to take care of their family. The result is in conformity with the findings of Bamidele *et al.*, (2010) who reported that, married people usually have feeding patterns and cultivate the habit of eating at home as a way of socializing with their family members whereas the unmarried may or may not have any feeding pattern as he/she can choose to eat away from home and the choice of food may be dictated by whatever is available at the eating point. Therefore, marital status will definitely affect

decision on the type and the quantity of food to be consumed by most households.

Family size of the respondents

Table 5: Presents result on the family size of the respondents. It found that majority (37.5%) of the respondents had a family size of 6-10 members, 20.0% of the respondents had 16-20 members, 18.3% of the respondents had a family size of 11-15 members, whereas 12.5% of the respondents have more than 20 members while 11.7% of the respondents had a family size of less than five (5).

Table 5: Distribution of respondents according to family size

Family Size	Frequency	Percentage (%)
1 – 5	14	11.7
6 – 10	45	37.5
11-15	22	18.3
16-20	24	20.0
Above 20	15	12.5
Total	120	100

Source: Field survey, 2019

This showed that majority of the respondents had a family size of 6-10 members. Accordingly, it's a general knowledge the larger the family size, the larger the demand for food. This implies that those that had 6-10 members dominate in the state which is considered moderate in term of food requirement. The size of the family is expected to determine the quantity of food to be purchased and to some extent the larger the size the more the decision will be influenced. This could be due to the fact that, the more the members of the family to be feed, the more consumption level. Consequently, larger family size may likely go for cheaper rice than small size family, because of the price and income level. For instance, Diako *et al.* (2010) and Gideon *et al.* (2014) reported that larger household size generally tends to buy local rice in order to

save money and also household size was positively related with preference for local rice. This is also in consonance with the result obtained by Alfred and Adekayode (2014).

Educational qualification of the respondents

Table 6: Presents result on educational background of the respondents. It found that majority (50.83%) of the respondents had attended tertiary education and obtained either OND, HND or B.Sc., 27.5% of the respondents had secondary education (SSCE) as their highest qualification, 14.17% of the respondent had primary certificate as their highest educational qualification, while 7.5% of the respondents had non-formal education meaning, they did not attend any formal education.

Table 6: Distribution of respondents according to educational background

Educational background	Frequency	Percentage (%)
Non formal Education	9	7.5
Primary	17	14.17
Secondary	33	27.5
Tertiary	61	50.83
Total	120	100

Source: Field survey, 2019

This implied that majority of respondents are literates. The high literacy rate could be attributed to the facts that, majority of the people in the area accepted western education for long period of time and most had sent their children's to schools. Generally, education is expected to affect one thinking, decision and output. It is expected that the choice of food to be consumed by educated people will be determined by its nutritional value and quality. Therefore, educated people are expected to go for imported rice than the uneducated because of its perceived quality attributes such as; cleanliness, absence of debris, stones and odour. This assertion is in agreement with the findings of Ogazi (2009) who found that the level of education of households has serious implication on the

type, and quality of food consumed by the households. A highly educated household head prefers small quantity of variety of food with different nutritional contents to the larger content of low nutritional components.

Working status of the respondents

Table 7: Presents result on the working status of the respondents. It found that majority (41.7%) of the respondents were business men and women, 31.7% of the respondents were working full-time, 12.5% of the respondents were part-time workers, 5.83% of the respondents were retired from the service and 8.33% of the respondents were in other form of work.

Table 7: Distribution of the respondents according to their occupation

Occupation	Frequency	Percentage (%)
Business	50	41.7
Working full-time	38	31.7
Working part-time	15	12.5
Retired	7	5.83
Farmers	10	8.33
Total	120	100

Source: Field survey, 2019

This showed that majority of the respondents are engaged into business. Considering the hikes in the prices of consumer's goods where rice is one, the business class are the ones that have the ability and capability to afford rice due to its cost whereas farmers and salary earners cannot afford most especially in Adamawa State where salaries are not paid regularly. This finding is still in agreement with that of Bamidele et al. (2010) in a research work carried out in Niger and Ekiti States, Nigeria who found that people in wage employment do mix and interact with people in the public almost on daily basis and this can influence their food and feeding habit.

Monthly Income of the respondents

Table 8: Presents result on the monthly income of the respondents. It found that majority (40%) of the respondents earned ₦50,000 and more than as their monthly income, 29.17% of the respondents earned between ₦21,000 to ₦30,000 as their monthly income, 19.17% of the respondents earned less than ₦20,000, as their monthly income, 4.17% of the respondents earned between ₦31,000 to ₦40,000, while 7.5% of the respondents earned between ₦41,000 to ₦50,000 as their income.

Table 8: Distribution of the respondents according to their Monthly Income

Monthly Income	Frequency	Percentage (%)
<20,000	23	19.17
21,000-30,000	35	29.17
31,000-40,000	5	4.17
41,000-50,000	9	7.5
Above 50,000	48	40
Total	120	100

Source: Field survey, 2019

This implied that majority of the respondents earned income of ₦50,000 and above monthly. This shows that they earned moderate income. Opeyemi *et al.* (2015) reported that majority (74%) of the local rice patrons were farmers. Also more (40%) of the imported rice patrons were civil servants which is contrary to this study which reveals that majority are businessmen and women.

Weekly Expenditure of respondents on rice purchase

Table 9: Presents the result on the weekly expenses of respondents on rice. It found that majority (62.5%) of the respondents spend less than ₦5,000 on rice weekly, 16.7% of the respondents spend between ₦6,000-10,000 weekly to buy rice, 10.8% of the respondents that they spend ₦11,000-15,000 weekly on rice, 7.5% of respondents spend ₦16,000-20,000 weekly to buy rice and 2.5% of the respondents also spend ₦20,000 and above weekly to buy rice.

Table 9: Distribution of the respondents according to their Weekly Expenditure on rice

Weekly Expenditure on Rice	Frequency	Percentage (%)
1000-5,000	75	62.5
6,000-10,000	20	16.7
11,000-15,000	13	10.8
16,000-20,000	9	7.5
21,000-30,000	3	2.5
Total	120	100

Source: Field survey; 2019

This implied that 62.5% of the respondents spend less than ₦5,000 weekly to buy rice. Consequently, since majority earned ₦50,000 which is considered moderate income monthly, spending up to ₦20,000 monthly on rice is an indication they consumed reasonable quantity of rice. Opeyemi *et al.* (2015) reported that majority (90% and 48%) of the local and imported rice patrons respectively had income range distribution of 50,000 to 100,000 per month. The mean household’s income was 12,250 for local rice and 16,130 for imported rice consumers. High percentage (36% and 34%) of local and imported rice patrons respectively spend ₦2, 001 to ₦4, 000 on rice consumption every month. Their findings therefore are not in consonance with this result.

IV. CONCLUSION

The study reveals that majority of the rice consumers in the area were married and had 6- 10 members in their households. Similarly, they were at their active and productive age, and majorities were educated above secondary levels which could translate to having wisdom and taking good decision on what is good for them without much influence. Similarly, majority were engage in business with moderate income generating capacity. The study therefore concludes that rice consumers in the study area have favorable socio – economic characteristics which could offer them good purchasing power for rice

consumption. However, further studies to test the significant of these socio – economics of rice consumers on quantity of rice consumed in the study area will be a welcome development.

V. RECOMMENDATION

Sensitization and awareness: There are need to sensitize Nigerians on the need to patronage domestic rice because the advantages are enormous. It will improve the agricultural contribution to Gross Domestic Products (GDP), increase food security, and generate more employment along the rice chain. Similarly, significant amount of money will be saved which could have been used to import rice. This will improve balance of payment, minimize poverty and foster protection against unfavorable policies (fear of threat due to ban/embargo etcetera). This could be achieved through Radio and Television programs.

Price stability/Improvement in income: Income especially in Nigeria is very stable while unnecessary increases in price of commodities are very common. Paid workers constitute the second category of rice consumers next to business operators. The income of paid workers in Nigeria has been constant static for the past ten years while price of commodities within the period has increased by more than 100%. There is need for a corresponding increase in income of workers in other to improve their purchasing power for rice because at the moment as

curbing strategies they can only reduce the quantity or go for lower quality rice.

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Women's Emancipation in the Western Grasslands of Cameroon, 1975-2010: Inculcating International Conventions

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Abstract— Every 8th March is celebrated in Cameroon as the International Women's day in a bid to galvanise and continue to create awareness, on the strides made by women in so far as women emancipation is concerned worldwide. All these stemmed from without and within as it were international and national obligation to ensure that women should not still be relegated behind in matters of development. Ever since this wave of thought began in the 1940s with the Universal Declaration of Human Rights and beyond the women of the Western Grasslands of Cameroon have come a long way but were still to reach their destination as far as full emancipation was concerned. What were the obstacles? Through observatory and statutory data, and manifestations, gender equality was still far-fetched when it came to customary tenets of ethnic groups found in this region. However, International Conferences, National and Non-Governmental Organisations have played greater roles in enhancing the emancipation of women in various domains as examined by this paper in the Western Grasslands of Cameroon. Hence government should come up with more mechanisms with which more enforcement of international and national laws should be upheld to the fullest.

Keywords— Western Grasslands, Women Emancipation, Customary laws.

I. INTRODUCTION

The protection of the rights of vulnerable, especially women and children, has been the preoccupation of African governments and peoples over the years especially when this had to do with obnoxious customs that deprived them of their rights. In Africa, women and children were classified as the main vulnerable groups when it came to human rights violation and discrimination. This discrimination were made possible because most communities were and are still patriarchal. That is, they were founded by men and consequently these men laid down rules and laws which undermined women, like was the case in this study area. These laws were being viewed today as discriminatory and impacting negatively on women. More so, most founders of religions, which formed the norms that regulate human relations, traced their origin to males. That is why in most ethnic religions and even

religions that became global, segregation and discrimination against women were still found in their beliefs and doctrines.¹ Women therefore suffered from violations of varied forms for several reasons. In this study area this type of situation prevailed even when much was thought to have been done to remedy the situation of women. These human rights laws thus helped to liberate women whose customs and traditions relegated them behind.

Most women were not given the opportunity to participate in decision making process in almost all societies in the world, even in issues that concerned them directly. This was because leadership was exclusively preserved by men. This was not only at the community level, but also at the domestic level, since in the homes decision-making, was hardly the joint business of the husband and wife most

¹ A. A. Samah, *Nation Building, Government, Politics, Human Rights and Gender, for Institutions of Higher Learning in*

Cameroon, Wisdom House Production, Yaounde, Cameroon. p.133.

relevant in the study area.² This was due to ignorance, but at times at the detriment of women and the entire family. When women became aware of their rights they started fighting against those customs and traditions that brought but misery to them. Away from leadership, women suffered and some are still suffering from unemployment. The question of working and earning something for the betterment of the family was more or less a man's responsibility and women were to stay at home while men went out to look for whatever in quotes for the survival of the family. Some women were therefore forcefully kept at home even if they had the potentials to work and augment the living standards of their families by ignorant men in the name of pride and gender roles laid down by their customs.³ Many men in the Western Grasslands married to women with enabling potentials refused them from working just because they believed the woman's place was in the home. This situation has greatly changed as women did all to better their lot but still needed continuous awareness.

Another area where women faced discrimination based on their sex was at the level of owning property. In almost all societies, particularly ethnic groups in Africa, women were not permitted to own land. Such traditional land tenure systems greatly affected women who highly depended on land for farming. In this study area women suffered from such discrimination from men. Consequently, as girls, women farmed with their mothers on their fathers' land and as wives they farmed their husband's land and when a marriage crumbled, no woman was allowed to harvest what she had toiled for. Even till date, efforts at making women own land were not yielding desired fruits in the Western Grasslands, showing that there is need for more measures to be taken to that effect. However, women who have the means now buy and own land, but are still to inherit family land for obvious reasons. Another problem young women faced was breast ironing, which was supposed to inhibit a young girl's breasts from early development. This was considered to expose the girl to lustful and eventual sexual activities from men when the girl was not yet fully matured. Breast ironing was therefore an activity whereby the breast of the girl was forced inwards with the use of mortar pestles and other objects like hot cola nuts leaves or hot stones. This was very common in the Western Grasslands.⁴ Through biology and science classes in

schools, most girls now know more about their reproductive health and would not ignorantly iron their breasts.

From the mid-1980s, Cameroon was plunged into an economic recession which had negative consequences on the population. One consequence of this recession was the drop in the prices of cash crops and basic food stuff. In this study area, the men who relied on coffee as their main source of income were seriously handicapped. Many turned to women for the general wellbeing of their families. The proceeds from the sale of farm produce like corn, beans, potatoes and vegetables were used to pay school fees and buy equipment for pupils, especially in the rural areas. The women saw in themselves potentials that had not been exploited before due to misconceived gender roles. As such, some women started becoming convinced that if they were well equipped with financial and technical support, they could continue to play a complementary role and would become true partners in the development of their families and society at large.⁵ The above situation was further aggravated by the government of Cameroon's decision to devalue her currency in 1994.⁶ The effects of this, especially on income earners were catastrophic. In the main urban centers, the Western Grasslands women took to *buyam sellam* (*peti* trading) to enable their families survive. It was during this period of hardship that some men realized the importance of women earning something no matter how little. The crisis therefore contributed to women realizing that the men would not always be there for them in times of difficulties and that they still needed to survive in the case of the death of their husbands.

In some communities in this study area forced marriage was a rule and not an exception. It also had other associated institutions such as bride wealth, widowhood rites and levirate marriages, which were also considered as repugnant to natural justice and which were common in most African societies. These marriage practices that led to violence against women and children were still being observed. In the Western Grasslands, for example, there was for a long time the preference for a boy child, who was going to inherit the father when he died while girls were prepared only for marriage and motherhood. Women were subjected to humiliating and degrading widowhood rites, and men considered women as property for the simple reason that bride wealth had been paid to their parents. As such, women as property could not inherit. As a child she

² Ibid.

³ The situation of workers in Cameroon has gradually been improving than in other areas of concern.

⁴ The side effects of breast ironing were not pronounced as those of FGM, though all were against Women's Rights.

⁵ This was so because some women equally thought that obedience in marriage was all that was needed from a woman and

all would be well as far as her upkeep was concerned. But time proved them wrong and the result was self-awareness which went a long way to meet but resistance from some men.

⁶ Some men who boasted to their wives discovered that the meagre salaries their wives were earning was sustainable and wished it could be more.

was married off without her consent. This situation however has been reduced to a certain extent as there are still some obstacles due to stagnating nuptial practices. Gender discrimination⁷ thus led to efforts at international and national levels to redress it. These were distinctions, exclusion, and restrictions based on ones' sex aimed at preventing the individual from exercising her rights or freedom; also aimed at preventing the individual from getting access to the various resources made available in his or her society. All what was happening all over the world against women also brought about Feminism⁸ as an emerging theory, which seeks to establish equality between men and women in the political, economic and socio-cultural realms. Feminism, aimed at changing the status quo and power structure between men and women in the society, by revising existing laws, beliefs, paradigms and stereotypes. With all these, customs and traditions in the Western Grasslands in particular and Africa as a whole were targeted due to their associated customs which were considered harmful. This was seen in customs such as preference of boy to girls at the detriment of girls and widowhood practices just to name a few which were common practices in this study area.

Women themselves were blamed for insisting or clinging to the outdated and archaic belief that the woman's place was the home. To them traditional societies could not evolve at the expense of the family.⁹ That means going against tradition put the society and its institution in jeopardy or in danger of extinction. On the other hand, extreme feminist groups argued that if women were to stay traditional, they would not have been allowed to work or run a business. This concept questioned the very basis of educating the girl child. As established by international bodies, this education was the secret behind economic development to begin with. That is why the Cameroon government embarked on free primary education in order to solve some of the problems. But her efforts were still lagging behind as success was only about 40% in the Western Grasslands as to the time of this study these discriminatory practices were from time to time questioned by women and even by some male folks. It was on these bases, that International and National organizations took diverse strategies since 1948 concerning the emancipation of women married or not.

The customs and traditions of marriage of the Western Grasslands had been a great hindrance to the attainment of women's rights and emancipation. The customs and traditions of the Western Grasslands are the total of inherited ideas, beliefs, values and knowledge of ethnic groups, which constitute bases of their shared social behaviour as transmitted and reinforced by members of each group under study over time. It is worth noting again that these traditions were man-made and therefore could be modified and that some are much newer than they claim to be. Restrictions and suppressions were therefore still being experienced by married women, irrespective of external and internal measures to modify them. Human and women's rights activism has brought pressure to bear on customs and traditions of marriage of the Western Grasslands. This can be seen through international and national imperatives concerning modern marriage laws which are being fostered in order to do away with such customs considered as being violent. Customary laws on marriage propagating child marriages, bride wealth with its ramifications and seclusion were a hindrance not only to women's progress, but society at large. Widowhood rites and wife inheritance with their related violence, as it is now being conceived, have attracted criticisms from many angles and positions. Though during the colonial and post-colonial periods, some of the nuptial practices such as levirate marriage, child marriages and forceful polygamy were reduced, but had not been completely eradicated.¹⁰

Due to the resilient, it has been difficult for national, international and civil society organizations to eradicate nuptial customs such as bride wealth, widowhood rites, forceful polygamy and seclusion, in the Western Grasslands owing to the attachment to both the matrilineal and patrilineal practices in the different societies that make up the ethnic groups in the area. Of recent government policy has been insisting on the organization of mass marriages in order to legalize traditional polygamous marriages. This was initiated and tried in Yaoundé, the capital of the Republic of Cameroon, by the Minister of Women Affairs and Promotion of the Family in 2007. The aim was that each region should contract about 5000 of such marriages on yearly bases in order to promote family values and safe guard the security of women and children living in concubine unions in all regions of Cameroon. When married women bore children and had as a natural duty to care for

⁷ Any distinction, exclusion or restriction made on the bases of sex which has the effect or purpose of impairing or nullifying the recognition on basis of equality of men and women, of human and fundamental freedom in the political, economic, cultural, civil or any other field.

⁸ It is an emerging theory which seeks to establish equality between men and women in the political, economic and socio-cultural realms.

⁹ M. N. Welegi, "Factors that Prevent Women from Attaining their Human Rights" in "Women, Children and the Law" FIDA Publication, TENCAM PRESS, Douala, nd. p.20.

¹⁰ L. M., Yenla, "Evolution and Impact of Customs/Traditions of Marriage in the Western Grasslands of Cameroon, Ca 1900-2010" Ph.D Theses in History, UNIYAOI, 2017, p.240.

the home, at first it bred no contempt, but with time they were forced to come out from dependency. With societal transformation by Christianity and Colonialism which introduced western values, characterized by individualism, demands and the ever increasing wants with limited resources, the married women have been forced to deviate from their traditionally or socially imposed natural duty of child bearing and care for the home. In trying to meet up with life exigencies, customs and traditions became a hindrance to the progress of women and girl children in the area.

The Western Grasslands geographically represent the present North West Region of the Republic of Cameroon. It is part of the social ensemble generally referred to in the Colonial History of Cameroon as the Western Grass fields.¹¹ It has been peopled in succession from the ancient times by ethnic communities from different backgrounds, notably the Tikar, Tiv, Mambila, Chamba, Widikum, the Hausa and the Fulani. The region as far back as the 19th century was already considered to be densely populated, to go by West African standards. In 1890 it had an estimated population of 214,000 inhabitants which more than doubled in 1953 when it hit a mark of 429,038 inhabitants.¹² Concerning the post-independence population statistics, the region in 1976 had a population of 980,581 inhabitants coming from two predominant systems of marriage; patrilineal and matrilineal.¹³ With all the above problems facing women of the Western Grasslands, international efforts were made for countries to inculcate them into their constitutions to foster women emancipation.

II. INTERNATIONAL CONFERENCES ON WOMEN EMANCIPATION

The evolution of the emancipation of the African woman cannot be complete without the role of the various international conferences concerning the amelioration of the conditions of women in the world and Africa in particular. The United Nations (UN) declared 1975, the international year of the woman and from 1975, four conferences have been held concerning the plight of women in general and that of the African woman in particular. These conferences

included the Mexico Conference in 1975, the Copenhagen conference that was held in 1980, the Nairobi Conference held in 1985, the Beijing Conference held in 1995 and the New York Conference on women in the year 2000¹⁴. These conferences united the international community in a quest for women emancipation in both public and private spheres. This had a direct bearing on women of the Western Grasslands who at first indirectly and later participated in some of these conferences and knowledge gained helped them in warding off harmful customs, which hindered their progress in various aspects of their lives. Before the inception of the UN which was the major force behind women equality only 30 out of 51 countries upon its creation allowed women equal rights to vote and hold public offices. In order to enhance women's role in their various societies, they embraced conferencing and encouraged non-governmental organization involvement as best mediums in raising awareness and educating women on their rights and the process began in 1975 with the Mexico Conference.

In Mexico in 1975 a Conference was held wherein there was the declaration of the UN decade for women to begin from 1976 to 1985, which launched a new era in global efforts to promote the advancement of women by opening a worldwide dialogue on gender equality.¹⁵ A process of learning was therefore set in motion, which involved deliberation, negotiation, setting objectives, identifying obstacles and reviewing the progress made. The Mexico City conference was called for by the UN General Assembly to attract international attention on the need to develop future oriented goals, effective strategies and plans of action for the advancement of women. To this end, the General Assembly identified three key objectives that became the basis for the work of the UN on behalf of women, full gender equality and the elimination of gender discrimination, the integration and full participation of women in development and an increased contribution by women in the strengthening of world peace.¹⁶ The conference responded by adopting a world plan of action; a document that offered guidelines for governments and the international community to follow for the next ten years in pursuit of the three key objectives set by the General Assembly. The Plan of Action set minimum target to be met

¹¹ The Western Grassfields in Cameroon is made up of the Western Grasslands of the North West Region, the Bamileké country and the Bamoum kingdom of the present West Region. These regions from a socio-anthropological point of view form a geographical as well as a cultural continuum. See J.-P. Warnier, P.N. Nkwi and J.-P. Warnier, *Elements for a History of the Western Grassfields*, Yaoundé, Publication of the Department of Sociology, The University of Yaounde, 1982, p.6. J.-P. Warnier, "Pre-colonial Mankon: The Development of a Cameroon Chiefdom in its Regional Setting", Ph.D thesis in Anthropology, University of Pennsylvania, 1975, p. 494.

¹³ North West Regional Service of Statistics, 2001.

¹⁴ WWW.UN.org/women_watch/daw/follow_up/session/press_kit/hist.htm. Four Conferences on Women, Historical Perspective, 1975-1995. Retrieved on 15th June 2013.

¹⁵ The first world conference on the status of women was convened in Mexico City to coincide with the 1975 International Women's Year, observed to remind the international community that discrimination against women continued to be a persistent problem in most parts of the world.

¹⁶ See www.un.org, Four Women Conferences.

by 1980 which focused on securing equal access for women to resources such as education, employment opportunities, political, participation, health services, housing, nutrition and family planning.¹⁷ By this period Cameroon like other African countries was still grappling with internal politics and Cameroon as whole could hardly benefit from such forums even if she participated. As such, women of the Western Grasslands continued in their plight.

However, this approach marked a change which had started to take shape in the early 1970s in the way that women were perceived. Whereas previously women had been seen as passive recipients of support and assistance, they were then viewed as full and equal partners to men, with equal rights to resources and opportunities. A similar transformation was taking place in the approach to development, with a shift from an earlier belief that development served to advance women to a new consensus that such development was not possible without the full participation of women.¹⁸ By this period the Western Grasslands women were still ignorant of their rights to the extent that gaining awareness could yield only little fruits due to customs and traditions which, had hindered there progress in education. Hence, only very few participated in public life. The Conference called upon governments to formulate national strategies and identify targets and priorities in their efforts to promote the equal participation of women. By the end of the United Nations Decade for Women, 127 member states had responded by establishing some form of national machines, institutions dealing with the promotion of policy research and programs aimed at women's advancement and participation in development. Towards the end of the Mexico Conference there were sharp differences among the women who gathered at the Forum. The discussions in the forum reflected the political and economic realities of the time.¹⁹ While women from the Eastern Block, communist countries for instance were interested in issues of peace, those from the west and developing world emphasized equality and development respectively. Nevertheless, the forum played an important role in bringing together women and men from different cultures and backgrounds to share information and opinions. This was aimed at setting in motion a process that helped unite the women's movement, which by the end of the Decade for women became truly international. The Forum was also instrumental in opening up the UN to NGOs

who provided access for the voices of women to the organization's policy making process. Cameroon by this time was under a dictatorship and only mission bodies operating in the study areas such as the Catholic and Protestants engaged in enlightening women in the Western Grasslands in a bid to ward off negative impact of customs and traditions considered repugnant to natural justice since the British Cameroons High Court Law of 1955 was more or less subsumed by the bi-jural system after independence. A follow up of the resolutions of the Mexico Conference had to be revisited in the Copenhagen Conference of 1980.

In 1980, another Conference was held in Copenhagen in order to review the process put in place at the Mexico Conference as earlier stated. During this conference, there was general consensus that significant progress had been made since 1975. Before then, in 1979, the UN General Assembly had adopted the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW) in December 1979. By this, women could boost of a law which was specialized to cater for all their predicaments and not the general Human Rights which entailed equality but was not realistic. This was thus one of the most powerful instruments for women equality.²⁰ The convention termed "The Bill of Rights for Women" by then legally bonded 165 states which had become states parties and obliged them to report within one year of ratification, and subsequently every four years, on the steps they had taken to remove obstacles they faced in implementing the convention. No report on, neither human rights nor women's rights could be made from Cameroon, since she was under a dictatorship and only the churches were there to propagate their doctrine which however, appealed only to the consciences of Christians while the rest of the non-converts continued to live under bondage. Despite the progress made, the Copenhagen Conference recognized that signs of disparity were beginning to emerge between rights secured and women's ability to exercise these rights. To address this concern, the conference pinpointed three areas where specific highly focused action was essential if the broad goals of equality, development and peace, identified by the Mexico Conference were to be reached. These three areas were equal access to education, employment opportunities and adequate health care services.²¹ To this

¹⁷ Through the UN's other Agencies such as UNESCO much efforts were made to reach some of these goals which Cameroon benefited. But we could not lay hands on reference to show that women of this region also benefited from grants given by UN Agencies.

¹⁸ See www.un.org, Four Women Conferences.

¹⁹ www.un-documents.net/mex-dec.htm. NGO Committee on Education of the Conference of NGOS. Retrieved on 7th June 2013.

²⁰ See Convention on the Elimination of all Forms of Discriminations Against Women (CEDAW).

²¹ Even as at now we were still to attain full access to education, full employment opportunity and adequate health care due world economic recession.

end, Cameroon as a whole was still lagging behind as only regional and divisional headquarters had schools.

The deliberations at the Copenhagen Conference took place in the shadow of political tensions, some of them carried over from the Mexico City Conference. Nevertheless, the Conference came to a close with the adoption of a program of action, albeit not by consensus. A variety of factors were cited for the discrepancy between legal rights and women's ability to exercise these rights. The issues raised included, insufficient involvement of men in improving women's role in society, absence of recognition of the value of women's contribution to society, inadequate attention to particular needs of women in planning, a shortage of women in decision-making position, unsatisfactory services to support the role of women in national life, such as cooperatives, day-care centers and credit facilities, overall lack of necessary financial resources and awareness among women about the opportunities available to them. To address these concerns, the Copenhagen Program of Action called for, among other things, stronger national measures to ensure women's ownership and control of property, as well as improvements in women's rights to inheritance, custody of children and loss of nationality. Delegates at the conference also urged an end to stereotyped attitudes towards women.²² Even though some women were already aware of their plight in the Western Grasslands, many impediments ranging from poverty to ignorance and the adamant of men to liberate them stood on their way. This is because the 1955 law against customs and traditions considered as repugnant to natural justice and equity could handle only cases from monogamous marriages, while the rest of the cases which emanated from customs were handled by customary courts which did not respect the rights of women. This was the situation before the Nairobi Conference of 1985.

In 1985, another conference took place in Nairobi and was looked upon as the birth of global feminism. The movement for gender equality had gained a true global recognition at the third world conference, which was held to review and appraise the achievements of the United Nations Decade for women. "Equality, Development and Peace" was the theme of the conference convened in Nairobi. With 15,000 representatives of NGOs attending the parallel NGO forum, many referred to the conference as the "birth of global feminism" because there was high representation

from women of all walks of life and governmental and NGOs from nearly all countries belonging to the UN. The women's movement, divided as earlier mentioned by world politics and economic realities at the Mexico Conference, became an international force unified.²³ A lot of information, knowledge and experience had been gathered through the process of discussion, negotiation and revision. At the same time delegates were confronted with shocking reports. Data gathered by the UN revealed that improvements in the status of women and efforts to reduce discrimination had benefited only a small minority of women.²⁴ Improvements in the situation of women in the developing world had been marginal at best. In short, the objectives of the second half of the United Nations Decade for Women (UNDW) had not been met. This realization demanded that a new approach be adopted. The Nairobi Conference was given the Mandate to seek new ways to overcome the obstacles of achieving the Decades goals. Though Governments were timid, front line churches that took part in the conference came in with enthusiasm as they preached equality, development and peace in churches and women's' gatherings. This enabled women who could not afford education to realize that their development in the Western Grasslands lay in their hands, though the church itself was not free from accusation as it propagated the inequality of women with men somehow. For example during solemnization of marriages be it religious or statutory women were and are still told to be submissive even when it has to hinder their progress as experience has shown.

Another conference for women, known as the Nairobi Forward-looking strategies to the year 2000 followed in the same month in Kenya in July 1985. The strategies developed and adopted by consensus by the 157 participating governments was an updated blue prints for the future of women to the end of the century. It broke new ground as it declared all issues to be women's issues. Women's participation in decision-making and the handling of all human affairs was recognized not only as their legitimate right but as a social and political necessity that had to be incorporated in all institutions of society. At the heart of the document was a series of measures for achieving equality at the national level. Governments were to set their own priorities based on their development policies and resource capabilities. Three basic categories of

²² This looked like paper work which had never been seen by the people of this region due to their bride wealth institution which give right to men to own women as property after payment of such.

²³ Churches took over to propagate these themes but the questions remains as to how many Christians were there and how many followed what they were told to do.

²⁴ For example only people who had access to information could benefit from it at they did. As such, people of the Grasslands when questioned show very limited knowledge of Human Rights of Women especially in rural Bamenda..

measures were constitutional and legal steps; equality in social participation identified and equality in political participation and decision-making.²⁵ Following this, the Cameroon Government adopted the policy of Health for all by the Year 2000, wherein women were targeted at anti natal clinics and encouraged to take family planning methods in order to avoid infant and maternal deaths. In the Western Grasslands during anti natal clinics visits women were lured to go in for artificial family planning methods in all the hospitals and health centers especially government owned. However lofty this policy were, they did not succeed due to after effects of some of the family planning methods which caused more health hazards due to side effects. Having children at random still continued to be the order of the day among all ethnic groups, especially among rural couples in the Western Grasslands.

In keeping with the view that all issues were women's issues, the measures recommended by the Nairobi Forward-Looking Strategies (NFLS) covered a wide range of subjects from employment, health, education, and social services, to industry, science, communication and the environment. In addition, guidelines for national measures to promote women's participation in efforts to promote peace, as well as to assist women in special situations of distress were proposed. Accordingly, the Nairobi Conference urged government to delegate responsibilities for women's issues to all institutional offices and programs. The Nairobi Conference introduced a wider approach to the advancement of women. It was then recognized that women's equality, far from being an isolated issue, encompassed every sphere of human activity. Therefore, women's perceptive and active involvement in all issues and not only women issues was essential if the goals and objectives of the Decade for Women were to be attained. While the efforts of the previous two decades, starting with the Mexico City Conference in 1975, helped to improve women's conditions and access to resources, they had not been able to change the basic structure of inequality in the relationship between men and women. Till date, these inequalities in terms of marital laws from various dimensions were still noticed in the Western Grasslands.²⁶ Recognition of the need to involve women in decision-making began to emerge during the course of the series of global conference held by the UN in the early 1970s as seen

above on various aspects of development, the environment, human rights, population and social development. These conferences stressed on the importance of women's full participation in decision-making and women's perspective were incorporated into the deliberations and the documents that were adopted. This continued to the 1990s with the Beijing Conference of 1995.

It was in the Fourth World Conference on Women held in Beijing in 1995,²⁷ that a new chapter in the struggle for gender equality can truly be said to have begun. The fundamental transformation that took place in Beijing was the recognition of the need to shift the focus from women to the concept of gender, recognizing that the entire structure of society and all relations between men and women within it had to be re-evaluated. It was discovered that only by such fundamental restructuring of the society and its institutions could women be fully empowered to take their rightful place as equal partners to men in all aspects of life. This change therefore represented a strong reaffirmation that women's rights were human rights and that gender equality was an issue of universal concern benefiting all.²⁸ Even so, women were yet to prove their worth in certain aspects of life which demand complementarity than the much talked about equality. Although women claim they could bury the dead, hardly could they dig graves like men especially in difficult stony terrain. Though artificial insemination exists, only women have wombs to nurture fetuses to grow.

So, the issue should have been liberating women from stereotypes, as it was still to happen in the Western Grasslands. The legacy of the Beijing Conference is that it sparked off a renewed global commitment to the empowerment of women everywhere and drew unprecedented international attention. The conference unanimously adopted the Beijing Declaration and Platform for Action,²⁹ which was in essence an agenda for women's empowerment and stood as a milestone for the advancement of women in the twenty-first century. The Platform for Action specified twelve critical areas of concern considered to represent the main obstacles to women's advancement and which required concrete action by government and civil society. These areas were women and poverty, education and training of women, women and health, violence against women, women and armed conflict, women and the economy, women in power and decision-making,

participation in the society. The most controversial section of the platform concerned reproductive rights, particularly the right to have abortion.

²⁵ Cameroon did make that all of that was taken care of in the stipulated areas as seen ahead.

²⁶ Patriarchal governments in Africa ratified these conventions but failed to march their words with action and women representation in decision making remains low even as at now in many African countries.

²⁷ The UN's Fourth World Conference on Women was held in Beijing, China, in 1995. The POA that emerged from the conference focused on the removal of obstacles to women's

²⁸ See www.beijing women conference, assessed on 10/10/2014.

²⁹ Most often men mocked women and such question, as what did you women bring from Beijing?, Did you not go to Beijing to seize your rights, and one wondered whether men actually knew that if the POA were to be realized it would benefit all.

institutional mechanisms for the advancement of women, Human rights of women, women and the media, the women and the environment and the girl child.³⁰ That violence against women continued to feature in these conferences is an indication that it was a worldwide phenomenon. As such, one gets baffled when one reads about strides already taken but which did not reflect the situation on the ground as was the case in the Western Grasslands because only very few women from this study area participated in public life and many still undergo torture in relationships.

By adopting the Beijing Platform for Action, governments committed themselves to the effective inclusion of a gender dimension throughout all their institutions, policies planning and decision-making. What these in effect meant was that before decisions were to be made or plans to be implemented, both men and women were to be involved. For example, instead of striving to make an existing educational system gradually more accessible to women, gender mainstreaming had to call for a reconstruction of the system so it would meet the needs of women and men equally. The introduction of gender mainstreaming called for the re-examination of society in its entirety and its basic structure of inequality. The focus was therefore no longer limited to women and their status in society, but was committed to restructuring institutions and political and economic decision-making in society as a whole.³¹ In Cameroon as a whole and the Western Grasslands in particular, this was still in the process but by 2010, when the scope ends, the situation was still beyond expectation.

In endorsing the Platform for Action, the UN General Assembly called upon all states, the UN system and the other international organizations, as well as NGOs and the private sector to take action to implement its recommendations. Within member states, national machineries that had been established to promote the status of women were assigned a new function as the central policy-coordinating unit to mainstream a gender perspective throughout all institutions and programs. Though primary education for all was being pursued in Cameroon, in the study area many children were still to enjoy it. This was owing to stagnating customs such as that which allow children to be given to chiefs as wives. This was also the case with ethnic groups such as the Hausa and the Fulani, who give out children to marriage.

The Beijing conference was considered a great success both in terms of its attendance and its outcome. It was the largest gathering of government and NGO representatives ever held with 17,000 in attendance, including representatives of 189 governments. The NGO Forum held parallel to the Conference also broke all records, bringing the combined number of participants to over 47,000.³² The presence and influence of NGOs, one of the most active forces in the drive for gender equality had increased dramatically since the Mexico City Conference in 1975. In Beijing, NGOs directly influenced the content of the platform for Action and they continued to play an important role in holding their national leaders accountable for the commitment they had made to the platform.³³ Just the awareness generated by this conference, sometimes it frightened men in this study area to provokingly remind women that they had been to Beijing. It thus shows that it had an effect on the way that even uneducated men now perceive women in the region more especially as government imposes quarters in legislative and parliamentary elections enabling more women to participate in politics.

Women also went to Harare and came up with the Harare Declaration. This was the initiative of a non-governmental organization precisely the World Council of Churches (WCC). It was a follow up of the Ecumenical Decade of Churches' in Solidarity with Women. The conference took place from the 27th to 30th November 1998. The aim of the conference was to assess the growth of the church, ten years after its inception. Over a thousand women and thirty men from around the globe attended the conference. At the end of the meeting, the women and men of the Decade festival declared "... we are committed to God's mission of the world where all of Gods' people can live fully cared for and share the resources of the world equitably, dwell in harmony with creation and affirm one another in the image of God."³⁴ Here, the women called for the creation of opportunities and for women to speak out fearlessly against violence and the abuse of women, in order to break the culture of silence. It was even a taboo to discuss certain marital problems in public in the Western Grasslands such as marital rape. They affirmed their vision of a world of economic justice where poverty is neither tolerated nor justified. Finally, the conference called for "the creation of just economic systems and just structure in the church and society so that women and men can experience the blessing of justice, equal pay for equal work,

³⁰ See www.un.org, Four Women Conferences.

³¹ Ibid.

³² K. Schultheiss., "Women Rights" Microsoft student 2009 (DVD) Redmond, Wa, Microsoft Corporation 2008, retrieved on 16th June 2013.

³³ Many of such NGOS existed in Cameroon immediately after the conference but due to lack of support many have shied away and awareness campaigns has continued to dwindle

³⁴ J. B. Endeley & Al., *New Gender Studies*, (nd) p.36.

sustainable and livable wages and honourable labour practices.”³⁵

This declaration served as a booster to many religious denominations like the Presbyterian, the Catholic and the Baptist. Of these churches, the Protestants in general could be said to have achieved much within the framework of the Ecumenical Decade of Churches in solidarity with the Women, in the domain of church legislation and has changed the perceptions among Bible scholars and theologians. Women were now being ordained as pastors into the ministry and fully participate in decision making circles of their churches. In the Presbyterian Church in the Western Grasslands, it is constitutionally mandated that 50% of all synod must be women. All the elected elders into the synod committee of the church are all women.³⁶ These ideas went a long way to upgrade the status of married and single women in churches.

By the year 2000 the UN came up with its famous Millennium Development Goals, which were to be followed for a period of fifteen years (2000-2015) and these were a series of objectives envisaged by the international community. The declaration took place during the 55th session of the UNO in New York. It was the continuation of the strides already started in the previous summits of Beijing and Nairobi-Kenya. Eight goals were targeted, but the focus was pinpointed on four, which directly concerned the women.³⁷ Point four of the MDGs, for example, called for gender equality between men and women and the improvement of the conditions of women as far as mortality rate was concerned. It was noticed with dismay that women, especially in Sub-Saharan Africa and Asia, were still being greatly discriminated against. In matters of education, for instance, priority was also still being given to the male child as less than two-third of the female population had access to elementary education, though they constituted the greater percentage of the population.³⁸ The Western Grasslands was therefore a perfect example of such discrimination due to customs and traditions, though the situation was gradually improving. All of the conferences did have a worldwide effect as far as women political emancipation was concerned.

III. DOMESTICATING INTERNATIONAL CONVENTIONS AND WOMEN IN POLITICS

After independence and reunification between the Southern Cameroons and *la Republique du Cameroun* in 1961,

women more than before emerged in the agendas of most discussions at the national and international levels. The major stakeholders remained religious institutions, and Non-Governmental Organizations (NGOs). The State created an enabling environment, which helped enhanced the strides towards the empowerment of the women in the Western Grasslands and beyond. Cameroon, like most countries around the globe, equally made some major international commitments regarding the issue of women empowerment and gender equality. This is seen in the state's policy of women's advancement in the country in general and the NWR in particular. The Head of State, Paul Biya unlike his predecessor, stood up clearly in support of women in his speech in Maroua on 2 October 1997 "...Cameroonian women, I pledge to foster women's advancement and shall not fail to do so..."³⁹ The major policy guidelines focused on a wide range of issues which affected women in the Western Grasslands equally as seen below.

In the domain of women's effective participation in decision-making, a lot has been done by promoting the equitable representation of women at all levels of decision making; encouragement of gender equity and equality through legislative reforms. The government tried to protect and promote the girl child by coming out with measures aimed at eliminating all forms of discrimination against the girl child and eliminate violence against women, taught and inculcated the notion of peace to men and women in their private and public lives, sensitized women on the need to denounce all forms of violence against them, provides care to victims of violence, informed men and women on the negative outcome of violence on women at individual and collective levels.⁴⁰ Although the state had provided for services such as the Social Welfare at the Regional and Divisional levels, owing to ignorance many women did not therefore benefit from this government initiative as expected in the Western Grasslands as the study reveals.

There was improvement in the institutional framework for mainstreaming women in development. This was through setting up an effective coordination system between Ministry of the Women Affairs and Promotion of the Family and other ministries or advisory structures in a bid to step up and improve services intended for women, enable Cameroon to tailor its activity coordination structure for women's advancement to nation and international

³⁵ Ibid.

³⁶ Ibid., p.43.

³⁷ http://en.Wikipedia.org/wiki/millennium_Development_Goals, retrieved on the 6th June 2013.

³⁸ www.unmillenniumproject.org/goals, retrieved on the 6th June 2013.

³⁹ "Cameroon Tribune", Number 144, 1997, p.3.

⁴⁰ Ibid., p.4.

aspirations.⁴¹ Since the 1970s, the government embraced the principles of gender equality and equity. It did not only signed and ratified international agreements such as the 1948 Universal Declaration of Human Rights but also the important convention on the elimination of all forms of discrimination against women (CEDAW). This committed the government to ensure respects of women's and men's rights and dignity. Cameroon institutionalized its commitment to address gender issues and to promote women's advancement through the creation in 1984 of the Ministry of Women's affairs. As indicated earlier customs remained on the way and hampered the realization of most of these in the NWR of Cameroon.

Cameroon also ratified the 1951 convention calling for equal remuneration for male and female workers. The Cameroon Labour Code of 1974 (Law Number 74/41) Articles 1 and 67 specifically respects the principle of gender equality stressing on the aspect that workers are guaranteed equal wages for the same type of work, qualification, and output irrespective of sex. Moreover, Cameroon has a catalogue of laws guaranteeing women's rights in a wide range of different areas encompassing criminal law, marriage, economics, financial benefits, politics, nationality, health, and freedom to worship. Awareness campaigns on these issues enabled some women thus to have the courage to free themselves from obnoxious customs and traditions in the study area.

According to the 1995 UNDP Human Development Report, Cameroon was not among the 55 countries which have lower average wages for women who did the same work as men. The labour code (Article 84 (2) and Section 85 respectively, entails fourteen weeks of paid maternity leave to nursing mothers and a one hour of breast-feeding time to be taken without prior notice.⁴² In general, statistical trends since the 1970s show that women's participation in education, health, economic and political institutions increased in Cameroon between 1970 and 1992. Cameroon witnessed the closing of the gap between female and male expectations in areas of life span, literacy and of enrolment at primary, secondary and tertiary levels of education.⁴³ Women of the NWR in Cameroon were found in profession like nursing, teaching, merchandise, and tailoring just to name a few. Unpaid work remained domestic chores which was a worldwide phenomenon.

Because the Cameroon government ratified the celebration of the International Women's Day, this day was

celebrated with pump and pageantry in the whole of Cameroon, the Western Grasslands inclusive. The International Day of Women dates back to the late 19th century. The day was already being celebrated in Europe as from 1911, following Clara Zetkin's calling. However, the UNO finally adopted a resolution in 1977, inviting countries to set aside one day for the celebration of women's rights and international peace. Eight March thus became the date of recognition for most countries, including Cameroon.

The International Women's Day is therefore commemorated in Cameroon on the eight of March yearly, since its inception in 1986.⁴⁴ This day was being observed as a day of reflection on the conditions of women. It was to evaluate the extent to which the rights of women were being respected together with what remains to be done. Since its inception, many proposals through seminars have been made all geared towards ameliorating the conditions of the women, though the day has not been given proper reflection in many circles. However, these seminars followed the themes for sensitization of the women given by the UN, one of which attracted attention in 2010.⁴⁵ In this study area, this day was usually remarkable especially in the Regional, Divisional and Sub-Divisional Head-Quarters. A chain of activities covering roughly a week were organized. This was done largely by the civil society groups and NGOs. Among the activities that were envisaged to sensitize women were seminars and workshops on vital issues in the socio-economic and political domains or themes. Social issues threatening humankind in general and the female folk in particular were also handled. Among the many active associations, the North West Women's Empowerment Forum has been championing this course as its network runs nationwide.

Parades were organized and women from all walks of life took to the podium and highlighted their plight and determination to go to higher heights. This was done through labeled placards bearing information on equality and freedom of women. However, the rural women were greatly exempted from these activities as they were yet to know the essence of the commemoration. In spite of the holistic aim of the celebration of this day, one wonders, the extent to which the women were to be effectively empowered. It was also noticed that conferences organized during this period did not include men from various rungs of the society in the Western Grasslands, as this would have facilitated their awareness. However, whether literate or

⁴¹ Ibid., p.3.

⁴² E. Joyce., Conceptualizing Women's Empowerment in Societies in Cameroon: How does money fit in? Gender and Development, Vol. 9. Yaounde 2001. p.35.

⁴³ Ibid.

⁴⁴ Thesticlandatyourservivce.blogspot.com/.../International Women's Day...ht, retrieved on the 7th June 2013

⁴⁵ See International Women's Day UN Official Themes since 1996.

not, many women had gained ways through which they could affect certain changes they needed in their lives.

IV. WOMEN IN SOCIAL AND ECONOMIC DEVELOPMENT

The government of Cameroon took strides to improve and enhance the well being of women. Among the measures put in place were the improvement of basic education, the raising of the level of enrolment in schools and vocational training, the creation of jobs and enabling employment for women, the facilitation of women's access to health facilities, education on health and peace, potable water and decent lodging conditions and has reinforced social assistance to resolve women's basic social problems.⁴⁶ On women's legal status, the government set up structures to ensure the protection of women; eradicate all forms of discrimination against women, promote social justice and enhance female human resources in all areas of development. The state also wanted to step up productivity by giving them the opportunity to venture into prior inaccessible areas, for examples train, teach and encourage women, diversify women's activities and their sources of income and encourage women's access to factors of production.⁴⁷ The women of the Western Grasslands, therefore benefitted from such policies though not as expected.

The state, through the Ministry of Women Empowerment and the Family, made important progress in the domain of women empowerment. The activities of Women' Empowerment Center Bamenda, became a pace setter as the creation of other centers were to follow in the rest of the divisional headquarters. This main empowerment center started as a community based organization and was later taken by the CNU and CPDM regimes. In 1985, the center was handed to the government under the Ministry of Women and Social Affairs. In 1997, the Ministry of Women's Affairs was created. The year 2000 marked a turning point as a special text created women's empowerment centers which were specialized technical units of the Ministry of Women's Affairs.⁴⁸ However, the reorganization in 2005 creating the Ministry of Women Empowerment and the Family by a Prime Ministerial decree worked in the advantage of the women. Some trainees came either to improve on their trade or to learn new skills so as to better their aptitudes.

The Bamenda Empowerment Center is comprised of three departments. These are the Departments of Textile

and Decoration; Catering and Hotel Management and Computer Sciences. It offers a yearly program, which runs from September to August and training at a moderate fee of 30000 francs CFA. Though training was envisaged for a year, those who were slow were given remedial classes for them to catch up with the others. It admitted women of all classes and ages who were drawn from the various ethnic groups of Cameroon residing in Bamenda. Non-nationals were not exempted. For instance, students from Equatorial Guinea enrolled. Apart from the older generation of students, most of the students were school drop-outs due to unwanted pregnancies and other social hazards.⁴⁹ The school operates under the Ministry of Women Empowerment and the Family. That is why the teachers were drawn from co-ministries of Secondary Educational and vocational training. As concerned the cost of management, the girls and women were expected to render physical services (weaving, assembling of beads and the like), to augment their school fees. However, with the decentralization process on the move, the council has been contributing to the institute's functioning.⁵⁰

Here, economic empowerment triumphed. The training was geared towards self-employment and entrepreneurship. The Catering and hotel management students took care of the production of a wide variety of produce such as cooked food, egg-scorch, fish pie, making and icing of cakes to mention a few. The textile and decoration department produced dresses curtains, bed sheets while the computer department was charged with general documentation tips. Most of the products were sold at the center or during exhibitions.⁵¹ This was where women in Mezam Division faced with financial difficulties in starting off a trade or other forms of businesses went to overcome this obstacle, as the Empowerment Center came up with a revolving loan scheme to support trainees start off a business. This loan scheme also known as the Heavily Indebted Poor Countries Initiative (HPIC) support project for poor women and it extended to all vulnerable women. The maximum amount to be loaned out was 250,000 CFA Francs. It had payment duration of a year and an interest rate of fifteen percent. In addition, the center also organized a series of workshops and seminars on income generating activities. This went a long way to arm the women financially.⁵²

The activities of the Bamenda Empowerment Center were not only felt in the City and its environs but they extended to the rural areas of Bafut, Bali, Santa and

⁴⁶ Ibid., p.3.

⁴⁷ Ibid.

⁴⁸ B., Ndoping, Directrice of Mezam Women Empowerment Centre, Bamenda, 10th June 2014.

⁴⁹ Idem.

⁵⁰ Idem.

⁵¹ Idem.

⁵² Idem.

neighbouring villages. The rural women were sensitized through animation and free educative talks. One of such activities was the production of washing soap, which enabled women to manage their own lives. The center also worked with village authorities on mentality change on vital issues as the rights of women to landed property. This involved the use of role-models, for instance, those women who had a sound educational background in the community. This helped women to become responsible at an early age.⁵³

The efforts of the Empowerment Center of Western were not independent. Other stakeholders such as the “sister” Ministries like Agriculture, Education, and Livestock were involved in the processes of women’s empowerment. Non-Governmental Organizations like Cameroon Institute of University Women (COMESUT) and Female Jurist Association of Cameroon (FIDA), were veritable partners in the strides to women’s empowerment in the Western Grasslands of Cameroon⁵⁴ These centers were to be opened in future in all divisional and sub divisional headquarters since the Bamenda center could not increase its intake due to infrastructural limitations. apart from the above, other initiatives were made at community levels through the help of Civic Society.

V. WOMEN IN COMMUNITY DEVELOPMENT ENDEAVOURS

The stride towards empowerment was also the concern of the civil society. This was realized with the support of NGOs and individuals. The Self-Help Cooperative Association (SEHECO) in Bafut is a good example to demonstrate how the rural women were being empowered. This association was created on the 14th of February 1996 in compliance with Law N° 92/006 of 14 August 1992 relating to cooperative societies and common initiative groups with its degree of application being N° 92/455/PM of 23 November 1992. It was accorded the registration N° NW/GP/01/96/1077 signed by Peter Akum (Agricultural Economist). Its head quarter was Bafut.⁵⁵ Its creation was inspired by ex-students of Presbyterian Secondary Girls Schools Bafut in Switzerland. The pioneers were Salesmen and sister Biggy. The latter innovations were significant as she was the one who secured the authorization certificate. Their gifts also permitted the group to secure some machines and patterns at the early stage of its creation.⁵⁶ Membership was strictly regulated. The first step was the interview. The aim of this was to know the level of skills

that the individual possessed at the entry level since quality was the guiding principle in the institute. After the interview, the individual proceeded to the second stage (practical test) during which she paid an amount of ten thousand francs (10.000FCFA) for material that was to be used in the course of training.⁵⁷ However, to gain full membership, the individual had to pay an amount of 100.000 CFA Francs. It was after the submission of the stated amount that the women in question had full membership.⁵⁸ It must be borne in mind that if the quality of production dropped along the line, the individual’s membership was seized.⁵⁹

In terms of equipment, SEHECO as a promising institute to boost women’s empowerment in Bafut had nine machines and four tables together with preservation cupboards for storage of products. However, the working premise was a Presbyterian Secondary Girls’ School building which the women rented from the authorities. They also paid their electricity bills. The Presbyterian authorities on their part furnished these women with pieces of advice.⁶⁰ Although this institute, since its inception, had registered only fifteen women, their accomplishments were enormous. According to Elisabeth, SEHECO enabled her help her husband in the education of her five kids who moved to greater heights as one went to the Higher Teacher Training College. Again, during the close of the school year, the women were able to donate prizes for female students, especially those of the Presbyterian Girls Secondary School.⁶¹

SEHECO, operating under the PCC canopy as a common initiative group, did much as far as the empowerment of the rural Bafut women was concerned. The continued encouragement of ex-students (girls) and even girls who were school drop-outs was clear proof that the center came to stay.⁶² Among the many products from the center were baby suits, girl’s gowns, table mats, toys, travelling bags, girl’s free wears, *kaba*, patch work bag, children trousers and general gowns. Marketing of the products was done by the management of the group. This group had an executive with the most important personalities being the president, accountant and the coordinator. At first, the produce were directed to Switzerland but later, the volume exported dropped. The reasons of this fall were two fold. Firstly, higher exporting charges forced the management to increase the prices of these products. On the part of the Swiss, importation charges made them to be discouraged. Quality in this center

⁵³ Idem.

⁵⁴ Idem.

⁵⁵ D., Ngufu, Age 52, Seamstress, Bafut, 18/1/2014.

⁵⁶ E., Njimuwe, Age 49, Seamstress, Bafut, 18/1/2014.

⁵⁷ Interview with Ngufu.

⁵⁸ Interview with Njimuwe.

⁵⁹ Idem.

⁶⁰ Idem.

⁶¹ Idem.

⁶² Idem.

was imperative and as such, control was effectuated every Thursday of the week. Sales were also effectuated at the center and during occasions like the Baptist conference, though a significant proportion went to Yaoundé.⁶³ Though this helped only drop outs from schools, it however went along to help these Bafut women to survive. Without the center, perhaps some would have engaged themselves only in unfruitful marriages as a result of such frustration, wherein with an unwanted pregnancy, it was believed the girl had only one option but marriage. Religious institutions also helped in women emancipation in the Western Grasslands.

Before beginning an analysis of the efforts of religious institutions in empowering the women in the Western Grasslands, it is important to emphasize that though Christianity and the Islamic faith reigned, a great number of the population remained animists. Focus is on the Church with the examples of the Presbyterian Church in Cameroon (PCC), the Catholics and the Cameroon Baptist Convention (CBC) without forgetting the activities of the Muslims. The church in general and the PCC in particular were very concerned with promoting Women's empowerment activities because women constituted the bulk of the population. The PCC Church was established in Mezam in 1958 and the first localities to host the church were Bafut and the Bali neighbourhoods. In the PCC, more than two-third of the population of Christians were women. Therefore the church came to understand that if it were to serve as a catalyst to move the community forward, the women had to be equipped.⁶⁴ The church continued its traditional role of evangelization. Through evangelism, the women were sensitized to see their capabilities and worth in society. Many congregations of the PCC, from the very urban to the rural communities, had women as chairpersons. This church empowered women to stand and speak for their rights. Most significantly was the right to earn income in the study area.

Women's empowerment in Mezam greatly benefited from the aid of the PCC. It was within the church that the strides were visible and affected in most or all levels of the church hierarchy, as the women showed their worth. The Treasurer of the Synod was Mrs Ennes (a white) and female pastors were present in almost all Congregations.⁶⁵ In the Bafut neighbourhood, there was Pastor Miss Fonyam Becky and Navagtache Angela. This was great innovation when compared with the Catholic Church that was yet to

have a female priest. It was not only in the domain of evangelization that the PCC showed its worth. The realm of education was significant. Women were raised to the ranks of head teachers in the various schools owned by the PCC in the NWR.⁶⁶ The CBC that came into being in 1957 also played its own role in emancipation of women in the region. The CBC Women's Union, through the assistance of their Sisters abroad, embarked on projects in the domains of health, education and religion to fight against poverty among women in most parts of their strongholds in the various Divisions in the Western Grasslands. In the area of health, the local Baptist women, under the supervision of white missionary sisters took lessons in basic hygiene to reduce contamination and spread of diseases. This was followed by the creation of a Nursing School at Nso' with Aid Posts and Health Board of the CBC to train nurses and nurse-aids of all sexes.⁶⁷

Socio-economically, the Cameroon Baptist Women, developed skills for self-help projects like knitting, sewing, weaving and basketry among local women, which helped, empowered them financially and which in turn, helped to supplement the welfare of their families. The target groups were the young female drop-outs, whom after training enabled them to market their products in order to better their lives. As a continuation, local Baptist women were taught modern techniques of collective farming of food crops. Examples were carrots, potatoes, tomatoes and spices. These produces were for local consumption and equally served as a source of income to women, who could not wait for their men to provide for them as customs prescribed.⁶⁸ The Baptist women also embarked on evangelization. In this view, it was not enough to satisfy the women physically, as they had spiritual needs as well, "for man does not live by bread alone, but by every word that proceeds out of the book of God" and in Christ Jesus we are poverty-free.⁶⁹ The CBC, especially the women's Union, hoped to achieve greater success in alleviating poverty amongst women through meeting their needs both materially and spiritually.⁷⁰

The examples of the PCC and CBC demonstrated the zeal at which religious institutions were attached to women empowerment. The women organs in these institutions gave guidance to the women on credit creation, home economics and general sanitation. Paradoxically, the proliferation of churches after the 1980s witnessed many ills in the church. The ethics and morals that guided the society

⁶³ Interview with Njimuwe.

⁶⁴ J., Pefok. Aged 58, CWF President, Ntamulung-Bamenda, 16th January 2014.

⁶⁵ M., Fusi, Age 62, Head Teacher, Bafut, 18/1/2014.

⁶⁶ Idem.

⁶⁷H., Anyangwe, Age 64, Retired Pedagogic Inspector, Bamenda. 3/09/2014.

⁶⁸ Idem.

⁶⁹ R., Nyingcho, Age 50, Headmistress, Champion Primary school, Up Station Bamenda. 25/09/2014.

⁷⁰ Interview with Regina Nyingcho.

deteriorated in the whole region. People involved in acts of witchcraft and adultery and took refuge in the church. This also put to question the empowerment strides propounded by religious authorities.

The Catholic on their part opened up vocational training centers such as Girls Vocational Training Centers at Nkar, Njotten and Shisong in Nso', where they had continued the work initiated by the Germans during their colonial experience there.⁷¹ A Nursing School owned by the Tertiary Sisters at Shisong equally trained nurses of both sexes. The story of Nso' Women Cooperative was therefore one of such Non-Governmental initiative, which went a long way to improve on women's lot. This cooperative bought and distributed palm oil to women groups all over Bui Division from the late 70s to the early 90s. Meanwhile, the Tertiary Sisters resident in Shisong and Nkar went round in schools around Bui to educate adolescent girls on basic hygiene and some cookery lessons. At the Girls Vocational School, which were found in almost all Catholic Parishes in the region, girls were taught home craft and sewing. Nevertheless, as far as women emancipation was concerned, the Catholic Church was far behind, as the women during nuptial blessing were always cautioned of the necessity of being submissive for the marriage to be considered a good one. As such most men took advantage of the situation to continue to dominate women even at their own detriment.

The Muslims constituted a significant population of the Western Grasslands. This group migrated into the area around the nineteenth century. Through the jihads of the nineteenth century, the Fulanis also settled in the region having their language as Ffulde. The strides towards empowering the Muslim women have taken a different dimension as compared to the Christians. This is due to variations in the economic roles prescribed by Islam and for the fact that they are a homogenous group.⁷² The main strategy that most stakeholders have taken first is the education of the children in general and the girl child in particular. This is because the type of secluded life lived by the Muslims kept most of them away from formal schools. To this effect, the Muslim Associations in partnership with NGOs like Plan Cameroon International have helped in the provision of infrastructure for some of the schools in Muslim settlements. The case of Sabga was a good example.⁷³ Again, a great number of the Muslims have a complex as they feel disadvantaged. As such, the Muslim

elite encouraged the creation of associations for the sharing of knowledge on pertinent issues such as education on HIV-AIDS. It was hoped it would go a long way to empower the women who remained the most vulnerable. Meanwhile MBUSCUDA, a Mbororo Youth and Development Association was also doing a laudable work to help empower young Mbororo girls.

The North West Region in general harboured over thirty-four NGOs both local and international at the time of this study. Of these thirty-four, about twenty-five were based in Mezam Division.⁷⁴ One of such NGOs, which made significant strides to empower the women, was the North West Regional Fund for Mutual Health (NWRFMH). Its activities were felt in the health sector.⁷⁵ In the health sector, programs that sought to enhance women's control over their entire health care in general, reproduction and sexuality in particular were carried out in most divisions. This is because as already mentioned; women were only able to exercise reproductive choice if they concealed their decisions from their partners. In fact, some were reluctant to raise the issue of contraception for fear of abandonment, accusations of infidelity or violent reprisals. In a division where the prevalence of HIV/AIDS rate was high, its prevention could not succeed without challenging power inequalities between women and men.⁷⁶

The NWRFMH charged with the promotion of mutual health organizations, an initiative of German-Cameroon, did a great deal in addressing the aforementioned issues. The activities of the North West Regional Fund for Mutual Health in the Bali Health District as an example were worth examining. The population of Bali Health district was mostly agrarian with subsistence farming being the main occupation. There were no industries though 15% of the population was involved in the sale of manufactured goods for construction and household items as well as foodstuffs. There was an urgent need of improve access to health care, especially for women who were the most vulnerable.⁷⁷

Statistics revealed that 40% of the sick people did not get medical care due to lack of money, 05% of patients hospitalized were unable to pay their bills, 30 % of those consulted by a medical doctor were unable to medication and many families mortgaged property in order to treat their sick ones.⁷⁸ To redress this disturbing situation, the NWRFMH in collaboration with the Bali district hospital

⁷¹ The GVS at Shisong, was intended to train girls on home craft by the Germans, but its syllabuses were improved later on after Independence and girls who graduate from there could write GCE Subjects.

⁷² M., Nnoko, Age 38, Environmentalist, Bamenda, 20/10/2014.

⁷³ Idem.

⁷⁴ Master Plan for Sustainable Development-North West Province, 2000, HELVITAS, p.34.

⁷⁵ M., Njamnsi, Aged 54, Philanthropist, Bamenda, 10/12/2014.

⁷⁶ Idem.

⁷⁷ Report for the creation of MHO in the Bali Health District; July 2005 p.6.

⁷⁸ Ibid., p.8.

and other five health centers embarked on a mobilization scheme, which saw the registration of hundreds of members with a token fee of one thousand francs per household and three hundred francs monthly for an individual.⁷⁹ The convention with the health institutions had the following description: To offer to members of Mutual Health Organization services such as consultations, deliveries, hospitalizations and surgeries and beneficiaries had to pay twenty-five percent of the cost of benefits and MHO seventy-five percent.⁸⁰

The Bali Health District, with a population of 65 659 of which fifty-four percent were females, greatly benefited from the assistance given by the NWRFMH. Since the vulnerable persons in most cases were women, it went a long way to empower them financially. The outcome was an increase access to health care with women playing leading roles.⁸¹ Apart from the North West Regional Fund for Mutual Health, the Non-Governmental Organization NTANKAH also contributed enormously towards the empowerment of women in Mezam Division.

The creation of NTANKAH was not without Goals. NTANKAH Women is a Common Initiative Group based in Bamenda, North West Region of Cameroon. It was created in 1996 and registered in 1997 under the Cameroonian law on Cooperatives and Common Initiative Groups. "Ntanhah" means "Hill of light." The members chose this name because they wanted to serve as a beacon or light house for other women groups, to lead them from the darkness of marginalization, dependency and underdevelopment to the light of emancipation, mutual support and self-confidence of women working hand in hand in progress and development in typical African community spirit.⁸² In brief, the mission of NTANKAH Village Women was to contribute and support the efforts of the Cameroonian government in improving and enhance the welfare of women in general and members in particular as well as ensuring livelihoods, human rights and capacity building, to increase their choices and self-esteem as well as promote the long term capacity of women to deal with development actors.⁸³

This Non-Governmental Organization was affiliated to other international organizations. As such, Ntanhah village women of Bafut was a member of: HUIAIROU Commission, a global membership and

partnership coalition that empowers women organizations to enhance their community development practice and to exercise collective political power at the global level, Grassroots Organizations Operating Together in Sisterhood (GROOTS International), White Ribbon Alliance, and Women Global Network for Reproductive Rights (WGNRR), Alliance of Home Based Care Givers, and Mother Center International Network for Empowerment (MINE).⁸⁴ All of these worked to better the conditions of women from deplorable customs and traditions in the study area.

Structural wise, there were two major organs in the year 2000: that is, the General Assembly and the Governing Board. NTANKAH operated through a General Assembly, which was the highest organ and decision-making body. It defined and formulated policies of NTANKAH. The Governing Board implemented strategies and programs and at the same time supervised and evaluated the work of members, staff, volunteers and resource persons

involved in programs, projects and activities.⁸⁵ The strategic program of NTANKAH, among others, included the following; Promotion of universal rights to education of girls and children, entrepreneurship, micro finance and livelihood development, Women's land, water, property, inheritance and settlement rights were the targeted areas. Also, promotion of environment, agriculture and livestock, Community response to HIV/AIDS and maternal health care, access to women and adolescent sexual and reproductive health rights and response constituted the next priority and lastly, social mobilization and community and civil society development.⁸⁶

The fundamental values included Community mobilization, networking with partners, perpetual innovation and construction, promotion of local-to-local dialogue, quality of service, clientele rights and development based approach, spirit of volunteerism, openness and tolerance, gender equity and equality, mutual respect, non-discrimination, solidarity, dialogue, commitment and hard work, and good governance.⁸⁷ The major partners and mandate at the national level were: Cameroon Grassroots Women Educational, Economic and Social Advancement (CAGWEESA), UNDP Cameroon, the Regional Delegation of Social Affairs, Regional Technical Group for the fight against HIV/AIDS, Regional

⁷⁹ Ibid.

⁸⁰ Ibid., p.9.

⁸¹ Interview with Njamnsi.

⁸² *The Entrepreneur*, Number 88, 2011. p.4.

⁸³ World Bank Atlas, 1992, Fact sheet: Cameroon - Women, agriculture and rural development Available in www.fao.org/docrep/.../V9319E00.htm Accessed 24/11/2014.

⁸⁴ Ibid.

⁸⁵ World Bank Atlas, 1992, Fact sheet: Cameroon - Women, agriculture and rural development Available in www.fao.org/docrep/.../V9319E00.htm Accessed 24/11/2014.

⁸⁶ Ibid.

⁸⁷ Ibid.

⁸⁷ Smith. D., *The Everyday World as Problematic: A Feminist Sociology*, McGraw-Hill Companies, 2005. p.7.

Delegation of Women Affairs.⁸⁸ The NGO was funded by: UNDP Cameroon, Dordrecht – Bamenda Foundation from Holland, Global Fund for Women, Virginia Gilder Sleeve International Fund, and Huairou Commission. There was also Positive Action fund for Children UK and philanthropic individuals and Families.⁸⁹

The major Achievements were, creation of Grassroots Women Network (CAGWEESA), creation of Cameroon Home Based Care Alliance (CAHBCA), creation of an Association of People living with HIV/AIDS (APLWHA), encouraged some traditional rulers to go in for Voluntary Counseling and Testing (VCT), and empowerment of PLWHA on micro finance schemes.⁹⁰ Projects in the pipeline included: Group farming and livestock production, Home Based Care to care and support Organization for Voluntary Counselors and PLWHA; Information, Education, Communication (IEC) for Prevention and Communication for Change of Behaviour (CCB) on HIV/AIDS, unintended pregnancies, and high risk abortions, Support to OVC and widows and HIV positive persons, Support and promotion for universal right to basic primary education of OVCs; Establishment of a Youth for Change and Empowerment program (Youth Force), Grassroots women equal land, housing and inheritance rights within the framework of MDG3, Sensitization and mobilization and education of grassroots communities, Marriage Registration and establishment of Birth Certificates to vulnerable persons, para legal training and test litigation, Local-to-Local dialogue, Micro finance schemes, Environmental protection and Soil Conservation.⁹¹

These Organizations operated four basic programs. At the level of field implementation, these programs were integrated to address the needs of the most vulnerable in a holistic manner. Priority was given to HIV/AIDS and the direct target groups; children infected and affected with HIV/AIDS, People Living with HIV/AIDS especially the women. Intervention services, promoting the empowerment and involvement of people living with HIV/AIDS, care and support (community and home based). Positive living and positive prevention, anti-stigma and discrimination awareness, socio-economic impact, mitigation and coping mechanisms, nutrition and psychosocial support, Human Rights, advocacy and networking; education, information development and dissemination.⁹² The Method and Approach used in realizing their objectives were among others; mainstreaming the greater involvement and

empowerment of people living with HIV/AIDS, experience sharing and storytelling, workshops and seminars and entertainment in the NWR.⁹³

VI. CONCLUSION

The promotional bodies (the state and civil society organizations) expressed their interest in promoting women's integration into the development process and improving the women's situation. In spite of the efforts towards empowerment, the road was not all that smooth as resilient customs continued to hamper the progress of women, especially married ones. These joined efforts of national and international stake holders went a long way to galvanized women empowerment in the socio-economic and political domains. But most of these were centered around the region's capital and surrounding divisional headquarters, while some of the institutions for human rights were based mainly but in the regional capital of Bamenda. For example, the human right commission office whose services were only recently extended to the region, as many abuses stemming from customary laws and or tradition, continued to flourish in the rural areas and even in urban areas unperturbed. This situation did not augur well for the development of women who would have stood side by side with men in development of their families and the region at large. The government therefore has to extend her institutions to the sub divisional areas for observatory and indictment purposes in rural areas where abuses are bound. This way she will succeed in eradicating the ills which hinder the progress of women due customary tenets.

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⁸⁸ Ibid., p.8.

Justice James Tebo, "Women and Cultural Development in Cameroon", Available in www.tffcam.org/foundation/women.htm, Accessed 24/11/2014.

⁹⁰ Ibid.

⁹¹ Ursula Grant *et al.* *The Chronic Poverty Report 2004-2005*, University of Manchester, 2005. p. 5.

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Urbanization and the Development of Informal Activities in the City of Bamenda and Environs, 1988-2010

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Abstract— *Urbanisation has been one of the greatest ingredients for the proliferation of informal activities in developing countries in general and Cameroon in particular. This has been catalysed by increase in population as individuals tussle for economic survival. This is true with the case of the city of Bamenda and environs where informal activities constituted the thrust of economic occupations between 1998 and 2010. With the advent of economic crisis in Cameroon in 1988 and ensuing economic hardship, migrants anticipating for myriad opportunities moved into the area. However, their desires were shattered when they would not find or catchup with their desired dreams. The resultant effect was the quest for informal activities that would provide for their livelihoods and better their standards of living. It is because of this that the study contends that, though the inception of the economic crisis in Cameroon and the budding educational establishments in Bamenda and environs facilitated population growth and urbanisation of the area as well as the proliferation of informal activities, increased crimewaves, unemployment, poor infrastructural development, poor living standards, high cost of transportation and administrative bottlenecks, inadequate finances and the unstable nature of students' residencies were impedimental to the benefits that goes along with such developments and greatly worked against the advancement of the area.*

Keywords— *Urbanisation, informal activities, Bamenda, growth and employment opportunities.*

I. INTRODUCTION

Urbanization has become one of the major catalysts for the development and growth of informal activities in Africa and the trend has been rapid when compared to other parts of the world with the exception of Asia. Though largely rural, the process has recorded an unprecedented swift over the years. With less than 10% of its population living in urban areas before 1950, the level of urbanization increased to about 18.5% in the 1960s and by 2000 it had risen to about 37.2%. Today, urbanization in the continent stands at about 40% and

it has been forecasted to 60% by 2050.¹ Urbanisation is not a new phenomenon as its traces its roots to indigenous or precolonial Africa contrary to European apologists, who posits that it is linked colonialism. To them, indigenous Africa lacked the necessary sophisticated political, economic and social organisations, that is associated with the growth and development of towns. They attributed urbanisation to civilisation which they believed to be absent in Africa before European interferences.

¹ See Joseph Teye. Urbanisation and Migration in Africa. (*Expert Group Meeting, United Nations Headquarters in New York, 1-2 November, 2018*), 2; Burak G'üneralp, Shuaib Lwasa, Hillary Masundire, Susan Parnell and Karen C Seto. Urbanization in Africa: challenges and opportunities for Conservation. (*Environmental Research Letters*: 13, 2018, 1-8); United Nations. *World urbanization prospects: The 2001 revision*. (New York: Upper Saddle River, 2002); United Nations. *World urbanization prospects: The 2003 revision*. (New York: Upper Saddle River, 2004); UNDESA (United Nations

Department of Economic and Social Affairs). *World Urbanization Prospects: 2014 Revision*. (New York: United Nations Department of Social and Economic Affairs, 2014); UNDP (United Nations Development Programme). *Human Development Report 2015: Work for Human Development*. (New York: United Nations Development Programme, 2015) and Mohamed Arouri, Adel Ben Youssef, Cuong Nguyen-Viet and Agnès Soucat. "The Effects of Urbanization on Economic Growth and Human Capital Formation in Africa" (*PGDA Working Paper No. 119*, (2014) 2 for more details.

However, urbanization was part and parcel of developments in the continent before European interference. This argument can be sustained with that fact that many cities or urban centres developed and were shaped by natural and human or better still socio-political factors in all the regions of Africa. Most prominent historical centres worthy of exemplifying included; Cairo, Fez and Tripoli in North Africa. In West Africa, Timbuktu, Kumasi, Ife, Kanem, Jenne and Kano thrived and in East and Southern Africa, Great Zimbabwe, Kilwa, Mombasa, Kongo, Luba and Kuba were conspicuous. These and other urban centres dispel the view that the development of towns in Africa was as a result of colonialism and western meddling or intrusions.²

That notwithstanding, European Presence by 1400 brought new opportunities which altered urbanisation trends in the continent. The establishment of transportation networks, new administrative centres and plantations and mining opportunities facilitated migrations and consequently the development of new urban centres. In Cameroon, the case of Doula and Victoria (Limbe) can be cited as these centres developed into cities due to the presence of harbours that were needed by the colonialists in the facilitation of the exportation of resources. Besides, the construction of roads and railways to centres or areas of production also facilitated the movement of people from different part of the colony to these destinations. Better still, other towns developed because they were administrative centres like the case of Yaounde which became the capital of French Cameroun.

With regard to the area of study, the city of Bamenda hosted the administrative headquarters of German Kamerun in the Western Grasslands. With the departure of the Germans after World War I, in 1916, and the inception of British rule, Bamenda still maintained its status as the administrative headquarter of the Region (Bamenda Province) until 1961 when the territory attained independence. Since then it has remained the Regional (Provincial) capital of the North West. Besides, the area gained more impetus when Bamenda was upgraded to an Urban Council in 1992. With the creation of the University of Bamenda in 1910, more people migrated into the area. The status accorded the study area, over the years, became great ingredients in its growth and urbanisation as it became the hub of economic, social and political

activities of Mezam the North West Region in general and Mezam Division in particular.

From the ongoing analysis, one may believe that the development of urban centres anchors on or are influenced by administrative functions of localities but this is not true as such developments are also attributed to modernism. According to the Western Liberal view, people within the peripheries are attracted to areas where job opportunities are available. In essence, economic challenges and most notably unemployment are the main drivers for migration. Besides the quest for better education and other social amenities as well as political factors which are; “quality of governance, discrimination or persecution, levels of security and policy incentives”³ among others are some of the reasons for migration leading to the intense proliferation of informal activities in most urban towns and cities around the world. By implication, urbanization is associated with many pull and push factors such as the growth of industries, infrastructural development, the establishment of institutions where new skills can be acquired such as schools and the search for better living standards. Thus, urbanisation brings varying economic opportunities, social amenities as well as infrastructural advancement. In analysing the contributions of informal sector to development, Romanos and Chifos posits that the solid waste collection, disposal, and recycling; water provision; improving air quality; and greening through urban agriculture are the most visible outcomes.⁴

With the expectation of enjoying these benefits that went along with urbanisation, many migrated into Bamenda and its environs but did not experienced better lives as they perceived. Unemployment, poor infrastructural development, high crime waves, and poverty as well as poor living standards bisected their new found land and in a bid to offset these setbacks and improve on their wellbeing, they resorted to informal activities. Better still, since most of the migrants could no longer cleave to agriculture as was the tradition in their formal abbots, they had to search for alternative methods or techniques of survival and informal activities became the only means of livelihood. This phenomenon which has affected Bamenda city and its environs (Bambui and Bambili in Tubah Subdivision) has been on the increase since 1988 with its associated problems. This explains why the paper analysis the Urbanization and the development of informal

² For more details on the development of Urbanisation in indigenous Africa, See Suzanne Preston Blier. *The African Urban Past Historical Perspectives on the Metropolis* in David Adjaye. Ed. *African Metropolitan Architecture* (London: Thames and Hudson, 2012) and Hull, R. W. *African cities and towns before the European conquest*. (New York: W. W. Norton & Company Inc, 1976).

³ Joseph Teye and Mariama Awumbila. *Factors of Migration and Urbanization in Africa*. (Centre For Migration Studies, University of Ghana, 2014), 11.

⁴ Romanos, M. and C. Chifos. Contributions of the urban informal sector to environmental management. *Regional Development Dialogue*, 17: 1 (1996), 122–155.

activities as well as the downside of this phenomenon between 1998 and 2010.

II. CONCEPTUAL FRAME WORK

It is difficult to, define and measure the dimensions of informal activities as these are as varied as authors involved in documenting information related to the sector. According to Schneider, Buehn and Montenegro, the informal sector or activities has to do with market-oriented production activities which are hidden from state authority and characterised by the none payment of taxes and social security contributions. The respect of labour regulations with regards to market standards is nil. In this connection, minimum wages, maximum working hours, safety standards are not in line with the set down rules and regulations. Administrative procedures, such as the completing of statistical questionnaires or other administrative forms or better still getting information on the activities of the sector by the state, is often difficult.⁵ The term can best be understood on the description given by Hart. To him, the informal sector is an embodiment of the economic activities of self-employed individuals since it excludes those of unregulated firms with salaried employees.⁶

The structuralist view on the informal sector, as indicated by ILO in 1985, holds that this sector can best be explained or characterized by many factors among which are issues of engaging or starting a business and ownership. To this end, the family is sole concerned and resources are directed towards it. Again, the ILO further argues that activities performed by destitute people (those at the periphery of society) for survival are considered informal. The ILO branded the sector with different names or attributes by 1999 and these included; the shadow economy, irregular economy, petty commodity production, underground economy among other characteristics.⁷ However, by 2002 the ILO decided to include the issue of decent work. This approach saw the informal sector as a bridge on which workers passed from one sector to another; that is from the agricultural labour force to other sectors considered modern.⁸

Ranis and Stewart described informal activities as the sector which includes only small-scale enterprises.⁹ Amin summarises the meaning of informal activities and

differentiates it from the formal sector when he argues that the informal sector is visible through;

- (i) certain labor and employment characteristics (such as lack of official protection/recognition, lack of coverage by wage legislation and other social security systems, predominance of own-account work; absence of trade union organization, low income and wages, little job security, and absence of fringe benefits from institutional sources); (ii) enterprise operation characteristics (such as very small-scale operation, unregulated and competitive market, reliance on locally available resources, family ownership, labor-intensive and adapted technology, and absence of access to institutional source of credit and similar support or protection); and/or (iii) land and housing characteristics of settlements (such as unauthorized use of vacant land, illegal subdivisions/renting of land, unauthorized construction, reliance on cheap and locally available scrap construction techniques, lack of application of safety standards and regulations, and non-availability of mortgages or any other financing) (Amin 1996).¹⁰

This therefore gives a vivid understanding of the informal sector and the study hinges on these arguments in describing the informal sector or activities that are operational and not covered or sufficiently covered by formal and legal frameworks and arrangements in the city of Bamenda and environs.

Enabling Vectors for Informal Activities in the City of Bamenda and Environs

The City of Bamenda and its environs remained relatively backward, with regard to urbanisation, when compared to other towns and cities in Cameroon by the 1990s. It was uncommon to find major industries operating in the area and thus difficult for its inhabitants to find opportunities. Though imbued with educational facilities which laid for the bases for infrastructural development and population growth, the urbanisation process remained relatively slow. The absence of industries and formal activities left the people with little or no choice than to engage in opportunities permitted by the local environment. With this, they engaged in pottery, weaving,

⁵Schneider, F., Buehn, A. and Montenegro, C. E. New Estimates for the Shadow Economies all Over the World. *International Economic Journal*, 24 (4), (2010). 443-461.

⁶Hart K. Small Scale Entrepreneurs in Ghana and Development Planning, *Journal of Development Studies*, 28, (1970), 705-716.

⁷International Labour Office, *Informal Sector in Africa*. ILO/JASPA, Addis Ababa, (1985), 5.

⁸ ILO 15th International Conference of Labour Statisticians: Highlight of the Conference and Text of the Three Solutions Adopted. Geneva: Bulletin of Labour Statistics, (1992-2000).

¹⁰ Amin, A. T. M. N. The informal sector paradigm: Analytical contributions and developmental role, *Regional Development Dialogue* 17(1) (1996, Spring), xvii.

hunting, fishing, craft, livestock rearing, blacksmithing, tapping and agriculture which was the dominant economic activity of the area.¹¹ Production was purely for subsistence and the excesses were used in exchange for basic necessities like salt and clothes.¹²

As mentioned before now, the agricultural sector remained the mainstay of the economy of Cameroon in general and Bamenda in particular. Coffee remained the main crop produced in the area and the main foreign earnings for the people and of the area and the state. Together with other agricultural products like cocoa, rubber and also natural resources such as oil, the State was able to maintain and sustained higher living standards for its people in the 1970s and first half of the 1980s. However, the sudden fall in the price of oil and agricultural products in the world market in the 1980s rendered a negative effect on the economy of the country. The economic crisis set in and the government had no choice but sought for a bail out from the international financial market and the process began by the end of the decade (1988).¹³

Consequently, the government embraced the structural adjustment programs proposed by the International Monetary Fund and World Bank. With this, the CFA Francs currency that was legal tender was devalued. This was in a bid to increase the competitiveness of Cameroon products in the World Market. To reduce government expenditures, staffs on the state's payroll were laid off. Besides, the liberalization of the economy saw the privatization of state-owned corporations. To sum it all, this was to reduce government spending and offset budgetary deficits witnessed over the years.¹⁴ As per the International Monetary Fund and World Bank, this was the best way out to regenerate growth and economic development in the country. Better still, these measures were seen as magic solutions to the crisis.¹⁵

Unfortunately, these measures did not work produced the desired goals in the short term but rather exacerbated the already aggrieved economic situation in the country and especially in the urban areas where depended on white collar jobs for survival. With this unfortunate situation, most of the inhabitants of Bamenda and environs were affected by these economic policies directly or indirectly. Some of them lost their jobs and others engaged in the

agricultural and related sectors were trapped in these new developments. This economic quack mire forced some of the embraced informal activities not because they liked it but as the only means of survival. They were joined in these activities by people from different localities that were equally affected by the crisis and in for new opportunities. This development greatly increased the population of the area in general and those engaged in informal activities.

Hence, this became the main nexus to the growth of Bamenda town and those of Bambui and Bambili as most people moved into the to mitigate the socio-economic challenges caused by the economic crisis and measures aimed at eradicating it. The trooping of people into Bamenda and environs from different backgrounds did not only swell the population but also impacted on the growth and expansion of the area as it became urbanised and facilitated the development of informal activities.

Urbanisation and the Nexus to Informal Activities

With the inception of the economic crisis, the area of study witnessed an unprecedented growth in population and the proliferation of informal activities. This drive is associated with the retrenchment of civil servants by the government and state-owned corporations. By 1995, moves were made the government in reducing those on the government payroll. About 30,000 workers were previewed for retrenchment and were to be offered 24 months of their basic salaries on their departure. Kamanda argues that the workers were offered two months of salary arrears (September and October) owed them in 1993 among other benefits. Consequently, by May 1995, there was a considerable drop in the numbers of public service workers from 188,200 (in 1990) to 155,210.¹⁶ Hence, the retrenched workers who moved into Bamenda and environs made use the money in financing or engaging in informal activities.

Besides, those who remained in the payroll of the government saw their salary slashed and life became unbearable for them. In this connection, they had no choice but engage in activities that would enable them meet up with their needs. This argument can be sustained with the case of retrenched Cameroon Development cooperation (C.D.C) workers that were from the North West Region of Cameroon returned to this growing urban town of Bamenda with the

¹¹ NAB, Ad, (1927)4a, N0.277/27, Assessment Report of Mezam Area in the Bamenda Division, Cameroon Province, 1927, 24.

¹²Ibid, 24.

¹³ Aloysius Ajab Amin. Cameroon's Fiscal and Economic Growth. (*African Economic Research Consortium*. Paper 85, November 1998), 4.

¹⁴Ibid, 24.

¹⁵ George B. A. Ayetty, *Africa in chaos*. (New York, United States of America: St Martin's Graffin, 1998), 22.

¹⁶Bayie Kamanda, "Cameroon: The Retrenched Workers of the Civil Service and Parastatals. Assessing the Needs for the Reforms". *Bulletin de l'APAD* [Online], 18, 1999, Accessed on 07 September 2020, 4.

hope of getting new opportunities. They and other ex-state employees could not find the cherished opportunities and took shade in the informal sector.¹⁷ Added to these, devaluation meant appreciation in actual terms with regard to the purchasing power of citizens. This had a serious negative consequence on the purchasing power of citizens and the ability to provide for their basic wants, leaving them with little or no choice than engaging in informal activities in order to augment. This explains why many of them trooped into Bamenda where the climate was rosy for such developments. It therefore means that the implication of government policy affected the formal sector as some of those involved in the sector found solace in informal activities.

They joined others already engaged in the sector in intensifying informal activities. Nigerians, especially from the Igbo ethnic groups as well as the Bamilekes from the Western Region of Cameroon strengthened informal activities as most of them were involved in the retail businesses and petty-trading. Neighbourhoods like Old Town in Bamenda, Commercial Avenue were their fiefs. Their presence and successes also encouraged some indigenes and settlers who hitherto had no interest in these activities. They showed renewed interest in the sector and established shops and competed with them.¹⁸ It should be stated categorically clear that there existed only a handful of people that undertook these informal activities based on choice, the proportion of those who were driven by necessity and for survival was very significant. This was a basically done within the Township area of Bamenda but as population pressure increased within Bamenda other towns began emerging. The quest for the provision of social services by the population also increased. In response, government began establishing institutions these in nearby villages in a bid to decongest the urban centre of Bamenda. This gave rise to the development of other villages into urban centres.¹⁹ Remarkably, the Bambui and Bambili are worth citing as they gradually grew into urban centres and the economy dominated by informal activities.

The emergence of Motorcycling as an economic activity or better still, as a means of public transport in Cameroon seriously impacted on the informal sector. Some of the unemployed as well as those engaged in unproductive informal activities switched to motorcycling and by 2000, it had become one of the most employing sectors in the area of study. Besides, other associated trades benefitted from this development as evident in the development of businesses

related to the sales of motorbike parts, accessories and repair works (garages). These were found in almost all neighbourhoods and localities like Old town and Commercial Avenue in Bamenda took the lead. The imposing influence of these activities in Bambui and Bambili towns cannot be overemphasized. Added to these developments, the mobile phone sector also witnessed considerable growth and its effects impressive with regard to the informal sector. Intensity in this direction came after 2006 when the activities of the Mobile Telecommunication Network (MTN) and Orange Cameroon brought another dimension in the informal sector.

With this, some youths began running 'call boxes' (temporary boxes or posts stationed mostly along major road junctions) where communication credits and related services were marketed. This became one of the most conspicuous sectors that developed after 2000 as it engulfed some of the unemployed in the City Bamenda, Bambui and Bambili. It was common to see youths stationed in makeshift boxes or rooming the streets with insignias indicating the services offered. Their activities were concentrated but not limited to of areas of high population density and were visible in markets, motor parks and major junctions. In this direction, Food Market, Commercial Avenue, city chemist Round About, all in Bamenda, Four Corners, Bambui and Three Corners, Bambili among others were the hubs of their activities. Worth noting is the fact that some people engaged in both the motorbike and call box activities especially when income generated from one of these sectors would not meet up with their basic necessities.

Informal activities also gained steam with the creation of The University of Bamenda in 2010. Informal real estate businesses which hitherto was not conspicuous before then but things took a different dimension as the demand for land and housing facilities increased. This was caused by rapid growth of or urbanization due to increase in population (increase in the number of students, teachers and other individuals searching for opportunities). Most importantly, Bambili which hosted the institution was affected the most. Also, Bambui which was the nearest neighbour to Bambili and separated the former with the city of Bamenda also benefited from these developments. With these came other services. Cognisance is tailored towards the establishment of documentation centres where printing, typing, photocopying, scanning among other related services developed. Internet centres also developed as internet facilities were offered to the

¹⁷Francis Azang Mboh, 51 Years, Trader, Nkewn, 25/09/2017; Charles Tifor Katu, 43 Years, Carpenter, Bambui, 19/09/2017; Mbanong Fedelis Andre, 60 Year, Farmer, Bamenda, 21/07/2017

¹⁸ Edem

¹⁹ Edem

community. Though visible in all the towns under focus, Bambili has been singled out as the main centre of these activities when compared to their neighbours. Hence, with the coming of The University of Bamenda, many people within Bambili and Bambui started shifting from agriculturally-oriented based activities to other forms of informal economic activities as mention above. Thousands of youths and adult also abandoned farming in favour of the above-mentioned activities.

Cobbling or shoe mending became a lucrative activity as well restaurants as the demand for food and cobbling services were in high demand. This does not mean that these activities were uncommon in the areas before the creation of the university but they became entrenched after 2010. With these outcomes, one can argue that what started as informal activities before 1988, turned out to be more vibrant and with greater intensity, impacted so much on the economic development of Bamenda and towns environs.

Downsides of Urbanisation and Growth of Informal Activities

Although urbanisation greatly contributed to the rise of informal activities, such developments were associated some downsides. To begin with, transportation cost and administrative bottlenecks constituted the major impediments to informal businesses in the area. Complications in relation to the normalisation of businesses from informal to formal, stole the show. The procedure became long and complicated and operators within the sector ended up abandoning the urge for normalisation. They preferred operating illegally especially when they discovered that taxes to be paid were relatively high when compared to the proceeds from their businesses. By implication, the taxes levied on their business were exorbitant and did not take into consideration local business realities.²⁰ Taxation teams visited regularly for assessment, levying and collection of taxes with little or no consideration on the realities on the ground. According to Freddy, a business operator, the taxation teams that came for assessments most often had little or no knowledge on the business climate or different challenges facing businesses within their localities, especially those around Bambui and Bambili where he operated. As a result, taxes levied were usually very high making profit maximisation difficult. Things were further compounded by price control teams that constantly demanded bribes from businessmen in exchange of favours during subsequent outings.

Constant harassment and exploitation of business operators by security forces and taxation officials became a

persistent threat to the existence of the sector. Operators in informal activities who had not normalised their business situations became victims and had no choice than to pay bribes for the continuance of their activities. This explains why shops sealed for operating illegally were unsealed without owners legalising their situations. Thus, an unhealthy climate existed between local authorities and operators especially on issues related to the activities and methods of operations. The local authorities favoured a situation where revenue would be mobilized from informal workers in the form of market tolls, fees and licensing. At the same time, authorities wanted to get rid of informal workers especially street vendors, partly due to perceived negative impacts on urban planning and management. They were also considered as nuisance and accused of not contributing to the development of their areas as they constantly default on tax payments. As such, measures such as payment of fines and confiscation of street vendors' goods became the order of the day, forcing them to quit or go out of business. These states of affairs greatly limited the growth and expansion of some informal businesses as individuals either closed up their businesses or relocated to other areas where the situations were better.

Inadequate finances was another hinderance to the growth and development of informal activities. This greatly affected the existence of small businesses and made it expansion impossible. High transportation costs further constrained business transaction especially those that were located far away from the sources of raw materials. Production remained relatively low resulting to the non-enjoyment of economies of scale. The transportation of raw material or products produce by such businesses was a major problem. The population seize of Bamenda city being heterogeneous and dynamic, posed a huge problem to urban planners. The town maintained its aging structures that necessitated the raising of new once which unfortunate was hardly done. The state of roads in the area was not impressive especially the major stretch linking Bamenda, Bambui and Bambili. This made it very difficult for goods and persons to be transferred from one location to the other smoothly especially in the raining season when the situation was horrible.

Also, the presence of security forces alongside major roads in the area was a serious problem as they, at times, unnecessarily delayed movements of vehicles with the hope of attracting bribes or tips from them. A short distance that would have taken 30 minutes ended up taking an hour. In certain cases, some of the transporters deliberately refuse regularising the

²⁰ Charles Tifor Katu, 43 Years, Carpenter, Bambui, 19/09/2017.

situation of vehicles by the non-payment of taxes, insuring the vehicles and the acquisition of other related documents. This therefore cut the attention of security agents who took advantage of situation in harassing them. Hence, much income was spent on transportation and settlement (bribing) of security officials rather than on business expansion which would have contributed to development of the sector.²¹

The diversity or cosmopolitan nature of the towns as well as varying informal activities ignited new problems as profits were not ploughed back into the economy by businessmen and thus stifled the development of the area. They preferred investing in their various areas of origin.²² For instance, the Bamelikes and Igbos who dominated in informal activities around City Chemist and commercial avenue, the Borrros that clustered and operated informal businesses as tailoring, soya business, hairdressing in Old town and indigenes of Bui Division ploughed back profits to their areas of origin. It therefore means that these towns did not enjoy the multiplier effect of income raised from the informal sector to some extent when compared to other towns in Cameroon. This phenomenon was not typical to the area alone but also experienced by some towns in in the South West Region of Cameroon and the cases of Kumba and Tiko are distinct.²³

The growth and development of the City of Bamenda, Bambui and Bambili brought unemployment as some of those who migrated into the area did not get the readily available jobs they envisaged. Unemployment rate was further enhanced by the increase number of graduates from institutions of higher learning in these towns. This led to the development of increased crimewave as some of the unemployed youths took unto cybercrimes as means of livelihoods. The area of study is well noted for this criminal activity and is among the leading centres in Cameroon. Some of them went into outright banditry. Insecurity became an urgent problem as the area was identified or associated to these crimes. Mile 4 Nkwen and Bambui are well noted for these crimes. Things became so horrible that the inhabitants took laws into their hands and jungle justice meted on anyone who indulged into these ungodly acts as they were beaten to death or burnt alive. The 1990s is well noted for these developments. Their numbers, nature, frequency and swiftness of crimes committed greatly affected informal businesses as the scale of havocs committed in some instances created panic and alarm in these towns, already aggrieved by economic crisis

and inability of a majority of its inhabitants to provide for their daily needs.

The reliance on student population as consumers was another hurdle that affected the sector. During holidays the business enterprises suffered major setbacks with limited sales owing to the fact that their clients were on vacation. Besides, the real estate sector suffered as some of their clients abandoned their rooms or houses without payment of rents during this period. The transportation sector and other informal activities suffered major hitches as seen in the temporary closing down some of businesses. This greatly affected the profit margins of the informal sector within this area.

III. CONCLUSION

This paper examined urbanization and the rise of informal activities in City of Bamenda and environs. The findings revealed that there was a direct relationship between urbanization and the development of informal activities. The quest for better opportunities caused many to migrate into the area and the increased in the population of the area facilitated the development of informal activities. In this wise, the motorcycling sector, petti businesses, cobbling, real estate developments and communication related activities were the most sought-after opportunities. It was hoped that urbanisation would be a blessing for the area, but the reverse was true as poor road networks, increased criminality and crime wave, conflict between informal sector operators and municipal and taxation officials, couple with bribery and corruption, harassments and administrative bottlenecks among other difficulties rendered the sector ineffective in the development of the area.

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²¹ Edem

²² Edem

²³ H.B. Nguendo Yongsi and Christopher R. Bryant, *Population Dynamics and Urban Growth Challenges in Kumba, Southwest Province Cameroon*, University of Montréal, 2008.

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Application of Analytic Hierarchy Process in the Selection of Educational Supervisors

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Abstract— In this study, through literature review and analytic hierarchy process, expert questionnaires were conducted to explore the dimensions and criteria for selecting educational supervisors, four evaluation dimensions and 22 evaluation criteria were constructed, and the weight and ranking of each criterion item were determined by using hierarchical analysis. Through systematic and scientific professional knowledge, we can find out the key factors that affect the selection of educational supervisors: professional ability is the most important, followed by leadership and personality traits. Experience, team spirit and professional knowledge are the three most important criteria.

Keyword— analytic hierarchy process, educational supervisors.

I. RESEARCH BACKGROUND

Based on the success or failure of enterprise operation, the leader is one of the key points (Robbins, 1989). Therefore, organizations must be driven by managers with sufficient expertise, skills and capabilities. Management ability is the combination of experience, responsibility, knowledge and skill. On the one hand, it refers to the ability of the supervisor to perform the task, on the other hand, to judge whether the manager is competent for its work.

Many organizations have many problems in the process of talent selection, mainly as follows: in the selection criteria, they ignore the necessary quality

characteristics of talents themselves; in the selection scope, there are too many rules and regulations, single channels, and narrow range of knowledge; in the selection of talents, there are many problems; In the way of personnel selection, it is still based on organizational appointment or appointment, ignoring the role of market competition, which does not meet the educational needs of modern market economy, and lacks the scientificity and universality of personnel selection and appointment.

Talent selection is a process in which an organization, in order to meet the needs of its development and according to the requirements of human resource planning and job analysis, seeks to attract those who are both competent and

interested in working in the unit, and selects suitable personnel to be employed, so as to ensure that the activities of the organization are carried out normally. Therefore, talent selection is a very important basis for school activities.

II. LITERATURE REVIEW

Fatma & Ali (2008) Supervision in education plays a crucial role in attaining educational goals. In addition to determining the present situation, it has a theoretical and practical function regarding the actions to be taken in general and the achievement of teacher development in particular to meet the educational goals in the most effective way. For the education supervisors to act ethically in their tasks while achieving this vital mission shall facilitate them to build up trust, to enhance the level of collaboration and sharing, thus it shall contribute to organizational effectiveness. Ethics is an essential component of educational supervision. It demonstrates rather vague quality due to the conditions, persons, and situations. Therefore, it is a difficult process to develop the ethical standards in institutions. This study aims to clarify the concept of ethics, to bring up its importance, and to make recommendations for more effective supervisions from the aspect of ethics, based on the literature review, some research results, and sample cases reported by teachers and supervisors.

Joo & Hyun-Jun (2013) this study investigates on how to improve the selection system of educational supervisors. The content analysis was conducted on the 2013 plan for selecting educational supervisor in the offices of Education in 17 different cities and provinces, focusing on candidates, selection process and criteria. In addition, the study reviewed the validity and effects of improvement plans suggested in previous studies, and later it concluded with additional improvements. Details are as follows. Requirements for candidates were recommendation,

educational experience, performance evaluation, and the history of previous application. Selection process included multistep process, various selection methods, and tests for basic knowledge and professional capability. Outside experts were invited to become members of the selection committee. This study concluded with additional improvement plans, such as the alternative plan for promotion, enhanced requirements for professional capability, improved leadership of superintendent.

Atila & Batu (2010) the aim of this study is to find out whether private and public primary schools directors show ethical behavior. In the research survey method was used. The data was collected with "Ethical Leadership Scale". T-test was used for the analysis of data, the significance of data was found to be .05. The result of the study indicate that school and private primary school director display high ethical leadership behavior, mostly in communication dimension which is a sub-dimension of ethical leadership behaviors. Besides, it was found out that private school directors show more ethical leadership behavior than in all four sub-dimension of ethical behavior compared to public school directors.

III. METHODOLOGY

The analytic hierarchy process (AHP) takes a hierarchical approach to all elements related to decision making and adopts as many concepts as possible to form opposites. It can establish a hierarchical system for complex plans and make comparisons between elements of different scales. For decision makers, hierarchy is conducive to the understanding of things. When faced with the choice of an appropriate plan, evaluation of alternative plans must be conducted according to certain criteria to determine the priority of each alternative plan, which is mainly applied to decision-making problems with multiple evaluation criteria in uncertain situations.

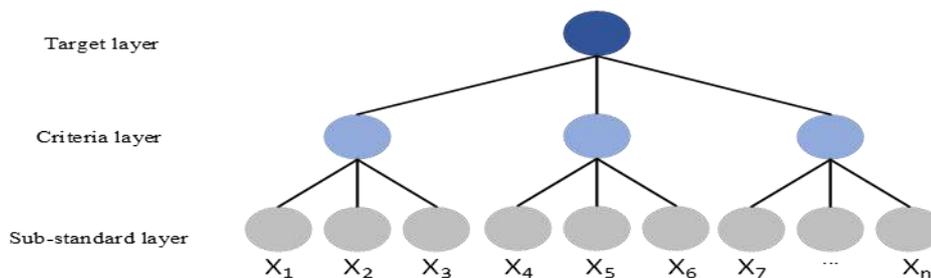


Fig.1: Hierarchical structure diagram of analytic hierarchy process

According to Teng and Tseng (1989a, 1989b), the main basic assumptions of AHP include the following nine items:

- (1) In an analytical system, it can be decomposed into several layers and elements to form a directed network.
- (2) In a hierarchy, the elements of each hierarchy are assumed to be independent.
- (3) Each element within the hierarchy can be evaluated under the criteria of the previous hierarchy.
- (4) When comparing and evaluating the elements, hierarchical analysis can convert nominal scale into ratio scale.
- (5) In Pair wise comparison between elements, Positive reciprocal matrix can be used for further treatment.
- (6) When the elements are compared in pairs, the preference relationship of the evaluator meets Transitivity. This means that not only the priority relationship satisfies the transitivity (A is better than B, B is better than C, so A is better than C), but the strength relationship also satisfies the transitivity (A is twice better than B, B is three times better than C, so A is six times better than C).
- (7) In practice, however, it is not easy to be completely recursive, so non-recursive consistency must be verified.
- (8) The degree of priority of elements is determined by the weighting principle.9. The presence of any element in the framework, regardless of its degree of strength, is considered relevant to the overall assessment framework.

IV. RESULTS

- (1) Constructs level project weight analysis: in Constructs, the weight of Expertise is the highest (0.744), followed by Leadership (0.168), personality traits (0.087). According to the expert decision, the evaluation of professional ability in the three major Constructs is the primary element under the general objective of the evaluation of the Laboratory Supervisor, which is more important than the other evaluation projects. The C.I. value is 0.033 and the C.R. value is 0.056. As C.I. is less than 0.1 and C.R. < 0.1 indicates that the level of the level of the level of the layer is acceptable, as shown in table 1.

Table 1 Constructs selection and weight ranking for educational supervisors

Decision model of educational supervisor’s selection constructs	Weight	Ranking
Expertise	0.744297	1
Leadership	0.168578	2
personality traits	0.087125	3

- (2) Criterion level project weight analysis:
 - (a) Of the two criteria under Expertise constructs, the highest (0.857) of the experienced variable weights shows that the experience variable is the most important condition in evaluating the project when evaluating the professional ability. The second is professional knowledge (0.142). The C.I. value is 0 and the C.R. value is 0. The consistency of the three criteria

under the C.I. < 0.1 and C.R. < 0.1 is an acceptable level, as shown in table 2.

Table 2 Criteria weight and ranking under Expertise constructs

Expertise constructs - Criteria weight and ranking	Weight	Ranking
Experience	0.85798	1
Professional knowledge	0.14202	2

(b) Under the leadership of constructs, the three criteria were group spirit (0.753), the highest weight, followed by communication coordination (0.154), supervision guidance (0.09). It shows that when evaluating experts' leadership ability, the group spirit is the most important condition for evaluating the project. The C.I. value is 0.015 and the C.R. value is 0.027. The consistency of the three criteria under the C.I. < 0.1 and C.R. < 0.1 is very high, as shown in table 3.

Table 3 Criteria weight and ranking under leadership constructs

Leadership constructs - Criteria weight and ranking	Weight	Ranking
Group spirit	0.753141	1
Communication Coordination	0.154886	2
Supervision guidance	0.091973	3

Table 5 The weight ratio of the level of the selection of the educational supervisors

Constructs	Constructs Weight	Criterion	Criterion Weight	Total Weight	Total Ranking
Expertise	0.744297	Experience	0.85798	0.638592	1
		Professional knowledge	0.14202	0.105705	3
Leadership	0.168578	Group spirit	0.753141	0.126963	2
		Communication Coordination	0.154886	0.02611	5
		Supervision guidance	0.091973	0.015505	6
Personality trait	0.087125	Ethical practice	0.754838	0.065765	4
		Emotion management	0.156672	0.01365	7
		Self-confidence	0.08849	0.00771	8

(c) Under the personality trait constructs, the three criteria were highest ethical practice (0.754), followed by emotional management (0.156), and self-confidence (0.088). It shows that when evaluating experts' personality traits, experts believe that moral integrity is the most important condition in evaluating items. The C.I. value is 0.017 and the value of C.R. is 0.029. The consistency of the three criteria under the C.I. < 0.1 and C.R. < 0.1 is an acceptable level, as shown in table 4.

Table 4 Criteria weight and ranking under personality trait constructs

Personality trait constructs - Criteria weight and ranking	Weight	Ranking
Ethical practice	0.754838	1
Emotion management	0.156672	2
Self-confidence	0.08849	3

(3) Confirm the selection of the constructs and the weight of the criteria for the educational supervisors

The whole level weight ratio of the educational supervisor's selection framework is shown in table 5.

The data show that the relative weights of expertise, leadership and personality traits are 74.4%, 16.8% and 8.7% in the three evaluation aspects of the educational supervisors, of which the weight value obtained by expertise is the highest and the value of the other two items is larger than the other two items, showing that experts agree that professional ability projects are available. Conditions are most important for selecting educational supervisors, and personality traits are considered by experts as relatively low importance items. Under the weight of the whole hierarchy, the first three items with higher criteria weight are 63.8%, 12.6% and 10.5% respectively. The first three conditions considered in the evaluation of the educational supervisors and the weight of confidence in the personality trait are considered as the first three conditions considered by the experts. The 0.7% is what experts consider relatively low importance.

V. DISCUSSION AND SUGGESTION

This study is based on the results of index weight numerical analysis:

- (1) The three evaluation of constructs were "Leadership", "Personality trait", "Expertise", the weight value from large to small order: Expertise, Leadership, Personality traits. The weight value obtained by Expertise is 74.4%, which is far greater than other conditions. The expert group believes that professional competence is the most important for the selection of educational supervisors; and personality traits are considered by the expert group to be relatively low in importance.
- (2) The weight values of the eight evaluation criteria are from large to small: Experience, Group spirit, Professional knowledge, Moral integrity, Communication coordination, Supervision guidance, Emotional

management, Self-confidence.

- (a) Experience is the most important evaluation criterion in Expertise (standard weight 85.79%, level weight 63.85%); experience refers to the knowledge and technology of completing the task in the ability to be engaged in a specialized profession, and is regarded as the ability to give full play to various abilities. The selection of educational supervisors is a professional and technical entity, and professional competence is the most important part of the enterprise whenever and wherever. Experience is also the most important assessment option unanimously identified by all expert groups in the guideline level.
- (b) The group spirit is the most important evaluation criterion in the leadership of the main structure (75.31% of the criterion weight, the weight of the whole level 12.69%); In leadership, the group spirit is a very important evaluation option for the expert group.
- (c) Professional knowledge is a secondary evaluation criterion (14.2% of criteria weight, 10.57% of the whole level). In the management of individual professional knowledge, the process of pursuing the goal, and the ability to display technical support, guidance and problem solving, will affect the quality and safety of the whole work. In ability, it is agreed that professional knowledge is a very important assessment option for educational supervisors.

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Influence of Sports and Games on Enhancing Students 'Academic Performance in Public Secondary Schools in Nyamagana District

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Abstract— This study aimed at investigating the influence of sports and games in enhancing students' academic performance in public secondary schools in Nyamagana district. The study employed mixed research approach and convergent research design. The participants involved in this study were 87 students, 8 sports and games teachers and 4 head of schools making the total of 99 respondents. Also, data were collected through questionnaires and interviews. Moreover, the quantitative data were analyzed using statistical packages for social sciences (SPSS) while qualitative data were analyzed through thematic data analysis. The findings of this study revealed that students' participation in sports and games bring positive impacts on their academic performance. Sports and games promote cooperation and good relationship between students, teachers and other academicians. Also it was revealed that different challenges which face public schools in implementing sports and games were, lack of expert teachers in sports, lack of funds, poor government support, lack of sports and games facilities, lack of enough play grounds, and students' misbehavior. Also, the findings identified different strategies schools should do to enhance sports and games successful such, giving rewards, sports competition, well planning of sports and games programs and lastly but not the least is dedicating enough time for sports. The study recommended that, in order to implement sports and games in public secondary schools, government should promote good policies which favor sports and games in secondary schools, and establishing sports and games academy for children, may help others to grow up with their carrier.

Keywords— sports and games, Academic performance, public secondary school.

I. INTRODUCTION AND BACKGROUND TO THE STUDY

Research on the influence of sports and games in enhancing students' academic performance has been done in many areas around the world but not yet in Nyamagana District. That sports and games influence students' academic performance, students must be involved in sports and games so that they may become physically and mentally fit to handle all curricular and extracurricular activities such as English society, music, school government, arts, dancing, etc., which increase their academic performance. "It should be known that sports and games came to be Universal features of human culture, both past and present. Archaeological investigations

have uncovered numerous artifacts from game playing sites around the world. These include implements related to games of physical skills, such as balls, and hoops, game boards, board games pieces and playing cards for games of strategy, and dice, used in games of chance" (Chick, 2015).

It is known worldwide that, sport and games activities are beneficial to the development of a child in school because it helps them to become physically and mentally fit, reduces their participation in bad behaviors because if they positively integrate into various activities such as religious activities, they will be disciplined and it also helps them to improve their talents. In different parts of the world students' academic performance become a critical agenda with relationship to

sport and games activities. According to Mello and Worrell (2008) define the term extracurricular activities as organized groups or activities such as dance, football, and students government and may occur in or outside of school. From this notion, it is clear that extracurricular activities take place after formal class, especially in the afternoon and evening hours. These activities may include school clubs, sport and games, school debate, drama, fashion as well as religious program. Extracurricular activities are not formal curricular school activities and there are no marks or credit given to students who participate but rather they are get motivation in terms of material and word. Extracurricular activities play an important role in developing students' academic performance.

In America researches have been conducted on the importance of sports and games on academic performance of students and teen sport as well. It is the first report to offer in depth analysis into how different types of sports and games teens play impact to their health and well-being in order to identify opportunities to improve access to high quality sports programming for students in schools, (Hock, 2018).

The report shows that participation in sports and games has positive impacts on academic achievement to students, since it prevents, stress, overloaded academic in head, psychological problems and creates physical fitness or health at large. "It digs deeper by looking at the little-studied questions of whether adolescent health and educational success vary from sport to sport. Finally, the report identifies unique benefits and opportunities for improvement that exist within each sport to maximize the health benefits for teens. Sports participation has many benefits and positive attitudes toward educational work; because they stimulate academic performance resulting to higher grades for students" (Hock, 2018).

Also in United States of America (USA) students' participation in sports and games or other extracurricular activities started 19th C and those sports and games become a part of normal academic schedule as curricular activities. They introduced literary clubs organized by students, dancing clubs, English clubs, science and arts clubs, journalism as well as newspaper (Massoni, 2011). Sports and games meant to help students to reduce bad conduct or bad behaviors such as robbery, alcoholism, early sexual engagement and dropping out from school. Through involvement in sports and games students get energy, health, develop unity and cooperation and develop new ideas and skills specifically in social aspect, (Hock, 2018).

Also student's participation in extracurricular activities started 19th C and these activities become a part of normal academic schedule. In different school at that time they introduced literary clubs organized by students, journalism as well as newspaper and found that extracurricular activities help students to reduce behavioral problems such as alcoholism, early sexual engagement and dropping out of school. Through participation in these activities students develop new ideas and skills specifically in social aspect. Also started in Japanese school extracurricular activities become a tool of transforming students and become a part of educational activities especially sport. Japanese schools have seen extracurricular activities such as sports as necessary for democracy, equality and shaping students discipline in various schools (Mendelbaum, 2005).

In Tanzania, the government determined the need to establish sports and games in public schools immediately after independence by establishing the National sports council under the ministry of education in 1967 With the purpose of stimulate students' academic performance. Whereby sports and games improve health of students, create active and creative students and cover psychological problems, the government decided to introduce UMISETA for schools, football Association of Tanzania (Omari, 2002).

In order for the country to reach expected goals in sports development in Nyamagana public secondary schools, the government should have a clear national sports policy, good sports administration as well as sports organization, plans, and sports programmers' in schools. These aspects help to improve sports development in schools (Omari, 2002). Therefore, this study aimed at examining the influence of sports and games on enhancing students' academic performance.

Statement of the Problem

The study about the influence of sports and games on enhancing students' academic performance using the theory of sports, intended to find out the influence of sports and games on enhancing students' academic performance. Scholars like Mandelbaum (2005) and Ivaniushina & Zapletina (2015) identified that "sports and games are important part in everyday life of children and adolescents and affect various aspect of their life from academic achievement to manifestations of deviant behavior". Sports and games provide energy and healthy to students as well as a sense of unity, cooperation and discipline, which promote their academic performance. The absence of sports and games may

lead to poor students' academic performance. Sports and games have been left behind in public secondary school compared to the earlier situation up to 1990s, was the time which high concentration on sports and games in secondary schools ended. If sports and games are not considered in secondary schools, it may lead to laziness, poor relationship between students and teachers, diseases and disunity to students. The absence of sports and games in public schools may cause different problems to students in all aspects, social, economic and political and particularly in academic performance (Gorton, 2010).

Surprisingly, there are few researchers who have investigated the influence of sports and games in enhancing students' academic performance in public secondary schools. Even if there are empirical evidence indicates that participation in sports and games influence students' academic performance. Less consideration on sports and games in public secondary schools, led to poor environment for students to study and perform well. When students get enough time for sports and games provide students with funny, refreshment and improving energy of students which promote unity and cooperation, confidence and good relationships among students and teachers. Therefore, this study investigated the influence of sports and games on enhancing students' academic performance in public secondary schools in Nyamagana District.

Specific Objectives of the Study

- i. To examine the impact of sports and games in enhancing students' academic performance in public secondary schools.
- ii. To explore challenges schools face in implementing sports and games in public secondary schools.
- iii. To examine strategies school should adopt to influence sports and games in public secondary schools towards students' academic performance.

Significance of the Study

The findings of this study are expected to increase knowledge and understanding to education managers, researchers, policy makers and other stakeholders such as teachers, students, government and parents, politicians on how students' participation in sports and games help them on achieving their academic performance. Not only that, but the findings may also be used by the stakeholders in creating good strategies on how to influence sports and games in public secondary schools, like preparing enough play grounds, jersey, sports and games competition both inside and outside the school, dedicating enough time for sports and games, since they

contributes to academic performance of students by creating good relationships, confidence, unity and cooperation between students towards education activities such as group discussions and group presentations as well.

II. LITERATURE REVIEW

Mandelbaum's Theory of Sports

A theory in research is important since it is used as a guide on how the data can be collected and a mindset through which the researcher makes sense of the findings. Therefore this research was guided by a theory of sports coined by Michael Mandelbaum in 2005. This theory of sports stated that sports and games brings a diversion from the routines of modern life which is the most positive effect of sports, that sports and games promote a conducive environment for mental and physical fitness making participants, especially students feel better to handle other different activities, particularly in academic affair to bring success as well as achievements. This means that, they can perform other activities which help them to build their talents and they can enjoy being in schools. To believe only in the formal-curriculum may destroy other student's talents and discipline especially for those who are not well gifted academically (Mendelbaum, 2005).

Students Involvement Theory

Students' involvement theory was introduced by Alexander Astin in 1984 and put more emphases on involving students in different activities in college such as extracurricular activities such as sports and games which allow interaction with other people in college and campus. Astin (1999) students' involvement refers to physical and psychological energy that student devotes to academic experience. Thus the highly students is one, for example, devotes considerable energy to studying, spends much time on campus, participates actively in students organizations, and interacts frequently with faculty members and others members.

From this theory, it is believed that, students who get involved in different activities in school will achieve the best in their study and their personnel development. According to Smart (2003), based on what students become or develop into, and their personnel development depend on the amount of physical and psychological they invest in different programs. From this theory, there are a lot of benefits such as academic achievement derived from involving students in extracurricular activities. When students are positively involved and invest their energy in various school activities, it helps them to perform well in their study and other school program such as extracurricular activities. As such, it is clear

that student's benefits more when they are directly involved in school program such as extracurricular activities. It is believed that extracurricular activities allow interaction between students, teachers and other member in the community (Manning, Kinzie and Schuh 2006)

In addition to that, schools should measure students' participation, for example by counting activities performed by students and time spent on it. Astin (2009) as cited in Paulsen (2013) stated that involvement may be measured quantitatively or qualitatively by direct observation or via self-report. This means that school extracurricular activities should be measured and grade should be emphasized so as to increase morality and creativity to perform as well as to improve student talent, abilities and capability during performance of these activities

Concept of extracurricular activities

Extracurricular activities as one dimension of curriculum practiced in different Tanzanian secondary schools. According to Adeyemo (2010) extracurricular activities are activities performed by students that fall outside the realm of the normal curriculum of schools. These activities are good in enriching students 'skills, discipline, physical fitness, talents as well as students who participated in extracurricular activities become creative. Acar and Gündüz (2017) identified kinds of extracurricular activities such as sports, music, painting, theatre, and literature which are out of class room contexts and performed in school. Jamal (2012) stated that, "extracurricular activities go beyond the classroom" activities and must fulfill two basic conditions: 1) they are not part of regular school curricular program and 2) they are structured towards a pro-social interactive environment. It is clear that, student's participation in these activities allow them to socialize and build peer integration which helps them to be good members of the school and the society in general

According to Hill et al as cited in Lunenburg (2010) identified some functions of extracurricular activities on students namely; reinforcing learning , supplementing course work, integrating knowledge and democratization. Through participating in extracurricular activities, students are able to learn new skills, allow students to integrate with other and it provide leisure time. This view is supported by Ahmad, Rahman, Ali, Rahman and Al -Azad (2015) argued that participation in extracurricular activities for students benefit them by attending class more regularly and having higher self-concept. According to Lunenburg (2010) extracurricular activities have become part of values and virtues not only to American education but also to the democratic life. It is true

that extracurricular activities contribute much on student's development in the aspect of talents and discipline due to participation in different activities done in school.

This section has contained the analysis and synthesis of literature related to the specific objectives. Therefore, this section has reviewed various related literature contextualizing assessment of the influence of sports and games on academic performance of students in public secondary school.

Impacts of Sports and Games Participation to Student academic Performance

According to Hock (2018) unique opportunities for improvement exist within each sport to maximize the health benefits for teens. Sports participation has more benefits and positive impacts towards educational work as it stimulates academic performance resulting to higher grades for students. Since sports and games create a conducive environment for students in secondary schools to learn better and achieve their expected goals in life time. Sports and games participation have positive impact on students' academic achievement or success since it builds confidence, discipline, unity and cooperation which brings both intra-personal and interpersonal skills to students which help him or her to interact with other through group discussion and different seminars and workshops, simply to socialize with others in the process of learning or acquiring skills, experience and knowledge from each other. Also sports and games prevent students from diseases, psychological problems by offering energy, confidence, refreshment and joy and also create physical fitness to students who get involved on sports and games. According to Hill et al., (2004) as cited in Lunenburg (2010) identified some influence of sports and games on students including; reinforcing learning, supplementing course work, integrating knowledge and democratization. Through participating in sports and games, students are able to cooperate each other and learn new skills, allow students to integrate with other and it provide leisure time. This view is identified by Ahmad et al., (2015) argued that participation on sports and games for students provide positive impacts as well as benefit to them by attending class more regularly and having higher self-confidence and self-concept.

Effective skills enhancement

According to Ivaniushina and Zapletina (2015) on their study on participation in sports and games as well as extracurricular activities and development of personal and interpersonal skills in adolescents revealed that students who participated in sports and games activities offer a wide variety for developing various aspects of personality. For example, social skills,

interpersonal skills, goal setting skills, self-identity and competencies especially for those who perform martial arts and sports. Students who involved in sports and martial arts have better skills at planning, time management, and setting priorities. Sports and games reinforce teamwork and they try themselves in different areas. Bhatia (2012) argued that students who engaged in extracurricular activities develop social skills, such as understanding different race and customs as he or she get interacted with different students from different customs. As well as individual skills such as self-confidence, and communication ability this activities develop students' verbal communication, ability to work in teams, mental alertness as well as self- confidence hence contribute to students' academic performance

Provide creativity

A study done by Olibie, Ifeoma and Ifeoma (2015) on curriculum enrichment for 21st Century skills, A case for art based extracurricular activities for students, revealed that student participation in extracurricular activities such as sports and games help to develop the 21st Century and such activities enhancing creativity thinking, productivity and wellbeing of students and help students to develop their personal and community development. For example students who engaged in drawings, playing and art based activity provide opportunities for students to be creative and innovative through making creative arts. Students who engage in dance serve a creative outlet for expression of self-environment. Dance helps to keeps body and brain active, improve strength and flexibility, posture and balance.

Develop students' talents.

According to Lazaro and Anney (2016) titled rethinking the role of co-curricular activities in developing students' talents in secondary schools in Tanzania revealed that students' who participate in co-curricular activities such as sports and games are more advantageous to develop talents. Another role observed in this study was co-curricular enrich students language skills and self-confidence.

Develop discipline among students

According to Muloiwa and Odimegwu (2018) identified that, participation in sports and games as well as extracurricular activities found to be beneficial to youth self-esteem and discipline. Extracurricular activities reduce risky behaviors such as sexual behaviors which associated with STI contraction including HIV/AIDS and illicit drug use associated with long- term addiction and liver disease which associated with illicit drug use with long term addiction. According to Massoni (2011), the study done in the positive

effects of extracurricular activities on students' academic performance, in the United State of America, identified that sports and games as well as extracurricular activities help students to reduce behavioral problem, stress and isolation. Participation in these activities helps students to develop good behavior and to become well disciplined. Also participation in extracurricular activities for example, sports and games strongly positively associated students' development. Students who participated in these activities are less involved in engaged in risky behaviors such as smoking, drinking alcohol, robbery and Marijuana.

According to Massoni (2011) in his study argued that students who participated in extracurricular activities reduced behaviors problems. For example students who participated in sports they show discipline in drills, practice and routines. They have a responsibility of performing these activities correctly. In this study a students who participated in these activities are rewarded for good behavior and they take pride in their accomplishments hence they gain better self-respect, self-esteem and self-confidence.

School leaders may face different challenges in influencing sports and games in public secondary schools

School leaders may face different challenges in influencing sports and games in public secondary schools which in turn hinder the academic performance of students. Students may not participate in sports and games in schools due to lack of playgrounds and absence of sports materials like balls, nets, jersey, first aid kit, tables for tennis, cards for facilitating sports and games in schools (Rees & Sabia, 2010).

Financial problem

This is a challenge towards enhancing sports and games in public secondary schools, whereby the school lack enough fund on establishing and support different sports and games, this is the results when most of public secondary schools do not have their own income generating projects or any means for fund raising to help them in establishing and maintaining sports infrastructures like playgrounds and lack enough fund to buy necessary sports and games materials or facilities like balls, jerseys, nets, cards and first aid kits. Instead, they depend on other external stakeholders such as the government and other academicians to provide such facilities, this situation limit the spread of sports and games and its' motivation to students, which may hinder the students' academic performance (Rees & Sabia, 2010).

Also an investigation done by Haliimah (2010), on how sports and games programs in selected Inner-city secondary schools in South Africa identified that, financial resources to establish

and implement sports and games are very limited compared to curricular financial resources. Because the shortage of school budget makes difficult environment to allocate a lot of money to establish and implement sports and games in public secondary schools. Since curricular programmers are given first priority. Funds allocated to establish and implement sports and games is not enough because investing as well as implementation of sports and games need or require an enough financial resources in facilitating, operating and administration.

In United States of America a study conducted by Moran (2017) identified that, there was financial problems due to in adequately fund allocated for extracurricular activities such as sports and games. This was a result of budgetary restraints and become challenges due to increase in costs of education and operational activities. This resulted to elimination of extracurricular activities such as sports and games in different parts of United States of America such as in Ohio schools.

Lack of government support

This also is a challenge towards enhancing sports and games in public secondary schools, when the government lack enough fund to support sports and games and has poor or wrong perception of sports and games, schools lack both moral and material support which hinders the developments of sports and games in public secondary schools. The government is the main change agent in influencing sports and games in public secondary schools by setting adequate budget for establishing and promoting sports and games, by building good playgrounds of football, netball, basketball, volleyball, hand ball and tennis, and buying necessary sports and games facilities like balls, jerseys, cards, boards, nets, and first aid kit. The government is also responsible for making policies on supporting sports and games so as to be considered as an important practice in public secondary schools in enhance students' academic performance (Rees & Sabia, 2010).

Lack of enough sports teachers

In enhancing sports and games, schools need qualified or skilled sports and games teachers who have the ability on transmitting sports and games skills and knowledge to young students by teaching them, mobilizing, organizing and planning on influencing sports and games in public secondary schools. Most schools lack qualified or skilled sports and games teachers to ensure that sports such as football, basketball, rugby, handball, netball, volleyball and tennis are established and promoted in public secondary schools as lifelong practices for students' achievements. Sports and games promote good academic performance of students

whereby they bring energy to students as well as physical fitness, confidence, build cooperation and unity. Moreover, professional sports and games teachers have strong passion for sports and games making students to get involved in sports and games for their own development and personal gain, especially on academic achievements or as careers (Mhando, 2015).

According to Salamuddiri, Harun and Abdullah (2011) on teachers' competence in school extracurricular management in Malaysia identified that, there is lack of skills and interest among teachers as well as instructors who are responsible for extracurricular activities such as sports and games in schools due to lack of extracurricular management courses organized for teachers. In these schools they lack experienced teachers hence their involvement in extracurricular activities is unsatisfactory. In Malaysian schools most teachers consider extracurricular activities as an onerous task and are less interested and motivated to carry it out. Likewise the study done by Rai et al (2004) in Nepal schools identified that, teachers have no enough skills and training on extracurricular activities. In some areas teachers they did not given training on extracurricular activities such as sports and games since those who being training was more theoretical and time given for practical activities was not sufficient and also trainers did not conduct practical activities during the training, especially in Music, creative, dance as well s sports and games.

Also according to Yusof (2017), in Saudi Arabia on teachers' attitude toward the use of extracurricular activities in enhancing students' speaking skills revealed that, teachers lack skills and experience on planning different extracurricular activities such as sports and games. Most of the participants (98%) have got work load that hinder them from preparing them for more EFL extracurricular activities this was resulted with EFL, teachers' workload hinders them from performing different activities

Lack of Motivation

According to Chatzisarantis (2006), the study found that students are not motivated by their schools like giving them rewards, no appreciation, poor support, no enough time for sports and games as well as sports and games programs, absence of sports competition in schools and absence of play grounds. Therefore, poor motivation in school environment affect the influence of sports and games hence result into poor students' academic performance. Moreover, Bamidele, Bamidele & Obaseki (2016), on their study about influence of sports and games recommended that lack of sports and games facilities or materials like play grounds, jersey, balls, and

cards, absence of sports and games teachers and absence of rewards for winners are among the issues tend to demotivate the students. Thus students to participate in sports and games need to be motivated in order to improve their academic performance. Lack of enough fund, poor government support affect sports and games in schools, hence lead to poor students' academic performance.

Limited time

According to Kamau, (2011) identified that, day school students spend less time in sports and games as well as extracurricular activities and also time allocated to extracurricular activities is not enough especially for mixed day schools students. For instance 2-3 hours per week allocated for extracurricular activities is not enough. In mixed school time is not enough because students they should have to cover reasonable distance to home and they have to do this before it is dark which time risky is especially for girls.

Shortage facilities

According to Ohiorenum, (2008) on extracurricular activities and teachers' attitude on the girl-child and psycho-emotional preparedness in Nigeria revealed that most school failed to organize different extracurricular activities such as sports and games due to insufficient facilities such as playgrounds provided within the school, play items like balls, jersey, nets, first aid kit and whistle which are sporting facilities needed for extracurricular activities. This study identified that, there are no climbers and swings were found in any of the study school location. For example, most schools in this study have facilities for football, but have none for the volleyball, pitch, and Badminton court. It is difficult to organize different sports and games activities when there are insufficient facilities for different sports especially for the child-girl.

According to Kisango, (2016) in his study on factors influencing students' participation in co-curricular activities in public secondary school in Lamu County identified that, there were no adequate physical facilities for co-curricular activities as well as sports and games including basic facilities deprived students a platform to explore and practice their activities. In this study teachers agreed that in adequate sporting materials and in adequate knowledge by students on the availability of some facilities led to underutilization hindering many students from being involved in co-curricular activities of sports and games.

Also in a study conducted by Mtengule, (2013) identified that, in most of schools in Morogoro municipality there were no enough sports and games infrastructure facilities for every type of sports and games as well. The dominant infrastructures

were for football, netball and basketball. But there were no areas reserved for volleyball, handball, baseball, rugby, and basketball, table tennis, boxing, jumping and swimming. Worthier some schools did not have completely the play grounds for any type of sports and games and some schools' grounds were used for constructing more buildings so as to accommodate the increasing number of students enrolled.

Strategies to influence students to participate in sports and games for academic success

According to Omari (2002), Tanzanian government determined the need of establishing sports and games at schools immediately after independence by establishing the National sports council under the ministry of education 1967, with the purpose of stimulating academic performance to students in different schools, since sports and games improve their health, create obedience, provide energy, creative thinking and cover psychological problem. As such the government decided to introduce UMITASHUMTA, UMISETA, CHANETA, and Football Association of Tanzania (FAT), for all schools to get involved in sports and games, for the purpose of motivating sports and games to students when the government realized that there are importance for students to get involved in sports and games in order to increase their academic performance by giving students discipline, confidence, energy, constructive thinking, unity and cooperation with other students and teachers through participating in sports and games (Omari, 2002).

Establishment of Sports and Games Programs

The government is the key argent in taking steps to establish sports and games programs in schools by establishing physical education programs and sports certificate courses indifferent institutions such as in Butimba Teachers Training colleges, shirika la Elimu Kibaha in Kibaha District and in the university of Dar-es-Salaam through the faculty of education, with the aim of influencing students to participate in sports and games for their development and of students and teachers together. For the country to achieve its expected goals in sports development in secondary schools, the government must have a clear national sports and games policy, good sports administrators, sports organization and plans and sports programmers at schools. These aspects will also help to improve sports development in secondary schools (Omari, 2002).

Promotion of Rewards

According to Mbwana (2015), this strategy can enhance sports and games towards students' academic performance, Rewards should be given to students who win competitions for the

purpose of motivating, influencing or encouraging them and other students to increase their efforts on cooperating with their fellow students on sports and games participation as well as academic affairs, something that could make them feel better and appreciated so that to improve their creativity by thinking constructively, promoting discipline, unity and cooperation to them, where by appreciation give a student confidence which can also lead to good students' academic performance. Also he identified that the provision of rewarding and bonus for the better performed students and teachers in order to motivate and rise the deadly heart and motivating students and teachers spirit which will increase performance and rise of educational system in Tanzania and reach expected goals or achievement of students' academic performance as well as recognition of best school which performed well, together which their teachers should be implemented and recognize and appreciated.

Training sports and games teachers

A study conducted by Mhando (2015), identified that implementation of physical education and sports curriculum at teachers colleges which provides a good future for the graduates. This is interpreted that implementation of sports and games enhancing students' academic performance. In order to get good sports and games teachers that are able to influence sports and games to public secondary schools the appointed sports and games teachers should attend sports and games course in different institutions like the university of Dar es salaam in order to help a particular sports and games teacher to perform different sports and games rules and strategies that lead to good students' academic performance (Mafumiko, 2008).

Promoting Motivation

Mafumiko, (2008) conducted a study on strategies for improving students' academic performance in Tanzania. The study came up with the findings that provide students with good playgrounds, sports and games competitions, enough budgets for sports, enough time for sports and games, influencing sports and games in schools which enhance students' academic performance. Therefore, availability of sports and games facilities and sports and games teachers influence students' academic performance in public secondary schools. Likewise Medic et al., (2007) argued that, the intention of determining the strategies that can foster students' academic performance. The two studies revealed that rewards have greater effect on influencing sports and games in enhancing students' academic performance. Schools should be aware of what motivates students for instance some

students are motivated not by rewards but others factors like enough time for sports and games, while others are motivated by rewards. Therefore schools have to take into consideration the good facilities for sports and games to students. According to Mar et al., (2016), study about the factors that may impact or influence sports and games in schools came up with the conclusion that in order to create the influence of sports and games in enhancing students' academic performance, the consideration on sports and games should be taken, mentoring sports and games programs and enough time for sports and games. This implies that by paying attention on ensuring good sports and games facilities increase the development of sports and games for the good students' academic performance.

Government should ensure enough equipment

According Bamidele, Bamidele and Obasaki (2016) on the study on assessment of the lack of sports equipment as constraint to the teaching and learning of physical education in secondary schools in Kogi state, Nigeria identified that secondary school principals should supply sports and games equipment to the schools so that any time the government release their capital grants the money can be deducted at source as such would enhance the teaching of the physical education as a subject in secondary schools of Kogi state. Again sport council should be equipped with the standard sports and games equipment needed to each the subject at a reasonable price, such as balls, jersey, whistles, cards, pictures, notebook, colors, and nets.

III. RESEARCH METHODOLOGIES

The study used mixed research approach which includes both qualitative and quantitative research approaches, because it provides a wide chance to conduct a study and brings awareness. Creswell, Plano & Clark (2011), (Creswell, 2007). defined mixed method as the one which the data collection and analysis are done by using both quantitative and qualitative method in a single study or series of studies. The purpose of using the mixed method is that it gave a wide range of research methods and techniques of sampling, data collection, and data analysis.

Research Design

This study employed convergent parallel research design. According to Creswell (2012), a convergent parallel research design entails that the researcher concurrently collects both quantitative and qualitative data in the same phase of the research process, weighs the methods equally, analyzes the two components independently, and interprets the results together.. The convergent parallel design was used in the study to provide a unique example of real people in real

situation for other readers to understand ideas properly (Kumar, 2011). Data were collected simultaneously and analyzed separately. Then the results were merged to help the researcher to understand the problem in details. Qualitative data were gathered from 4 head of schools who provided important information concerning the research topic. On the same time, quantitative data were gathered from 95 participants who provided the information concerning the research topic

Sampling Technique

The study used two sampling techniques namely, purposive sampling and random sampling. According to Kothari (2004), a sampling technique is a process of getting information about the entire population by examining only a part of it. Purposive sampling is a sampling technique which is more appropriate when the population happens to be small and a known characteristic of it is to be studied intensively.

The study used purposive sampling to select the District education officer and four heads of schools from four selected public secondary schools because their number is small and they have relevant information on the influence of sports and games on students' academic performance in secondary schools. Purposive sampling is useful in getting rich information from the selected respondents (Saunders *et al*, 2007), Kothari (2008), Random sampling gave every student a chance to participate in the study and therefore, will reduce the degree of biasness in data collection.

Sample Size

The sample size for this study was calculated by using Yamane's formula; this formula used to calculate the sample size from a population of 9135. Therefore, the sample size for this study included 87 students, 8 sports teachers and 4 heads of school making the total of 99 respondents. Kombo and Tromp (2006) argue that a sample size is the group in a research study from which information is obtained; therefore a sample size is a group of individuals selected from the population for the intention of acquiring required information about the study. According to Yamane (1967) as cited in Singh and Masuku (2014) this is a simplified formula to calculate the sample size. The formula assumes that a confidence level of 95% and a precision level (sampling error) of 10% ($P= 10$).

The sample size was calculated using Yamane's formula as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where;

n = is the sample size

N = is the size of population

e = is the error of 10 percentage points

Solution

n = is the sample size

N = 9135

E = 10%

Therefore

Applying the formula:

$$\begin{aligned} n &= \frac{N}{1 + N(e)^2} \\ &= \frac{9135}{1 + 9135(10\%)^2} \\ &= \frac{9135}{1 + 9135 \times (0.1)^2} \\ &= \frac{9135}{1 + 9135 \times 0.01} \\ &= \frac{9135}{1 + 91.35} \\ &= \frac{9135}{92} \end{aligned}$$

n = 99

Methods of Data Collection

This study employed two methods of data collection, questionnaires and semi-structured interviews. The purpose of using these two methods is to get valid and reliable data since the use of a single method is inadequate in itself.

Interviews

According to Kothari (2004), (Hancock & Algozine 2006). Krishnaswami (2003) semi-structured interview which means the use of pre-determined but flexible worded questions which give tentative answers to the researcher's questions. This study conducted face to face semi-structured interviews with four heads of school in four chosen public secondary schools in Nyamagana District. The interview used to collect in-depth information on school leadership roles, challenges and solutions in enhancing the provision of quality education. Further, the researcher made the interview guide available earlier so as to allow the respondents to be familiar with the

questions and make preparations to respond freely during the interview.

Questionnaires

The questionnaires with both open and closed ended items used in this study to collect information from 08 sports and games teachers and 87 students. This was made purposively in order to enable the respondents to provide precise responses and to let them think critically and constructively when supplying their opinions and experiences that was important in understanding the research problem. The questionnaires were administered to respondents by the researcher as follows; the researcher gave some explanation to the respondents concern the purpose of the study and its significance.

Pilot Study

According to Creswell (2012), a pilot study is a procedure whereby the researcher tested his questions to some of his sample group so as to ensure the validity and reliability of the research tools. Reliability of the study done by exposing the questionnaires to my fellow colleagues who are teachers by profession. Moreover, to ensure validity and reliability of the research instruments, a pilot study conducted prior to the date of study. Reliability is the stability and consistency of the measurement on the research instruments by making sure there are no error or bias from the respondents or the researcher. The data obtained were coded and analyzed by using Statistical data analyzing software SPSS version 20. The research instruments were found to be reliable and finally administered to the respondents during the actual study (Dawson, 2007).

Validity and Reliability of the Instruments

Validity is the extent to which the instrument measures what it purports to measure (Kimberlin and Wenterstein, 2008). The researcher in this study made sure the research instruments measure what was supposed to be measured. The instruments were exposed to colleagues and to the research supervisor; the researcher was advised to make modification of the instruments so that they could give the expected answers. The advice from the supervisor and fellow students helped the researcher to construct the questions which helped to collect data which were related to the topic under investigation and managed to have the answer of the problem due to valid questions constructed. Furthermore, reliability is the stability and consistence of the measurement on the research instruments by making sure there is no error or bias from the respondents or researcher (Dawson, 2007). In this study the questionnaires were exposed and administered to

fellow teachers and filled. The data obtained were coded and used to calculate Cronbach's Alpha Correlation Coefficient of Reliability with the aid of SPSS version 20. The calculated Cronbach Alpha Correlation Coefficient of Reliability was $\alpha = 0.753$ signifying that the instruments were reliable. This form of reliability was employed because the questionnaires are administered once hence save time and cost. The research instruments were finally administered to the respondents that participated in the study.

Data Recording and Analysis

In this study, the quantitative data collected through questionnaire were analyzed using SPSS (Statistical Package for the Social Sciences) version 2.0. This study employed SPSS in calculating descriptive statistics and creating graphs and charts.

Qualitative data gathered through face to face interviews with the District education officers and heads of schools analyzed through content analysis; this is a type of data analysis where data gathered was categorized into themes and sub-themes, so as to be comparable. Moreover, content analysis gavethe researcher the ability to structure qualitative data collected in a way that satisfies the accomplishment of the research objectives (Moore & McCabe, 2005).The qualitative data presented through elaborated descriptions and themes that convey multiple perspectives from the respondents, while the quantitative data presented using; tables, graphs and charts, this made the findings to be easily understood by readers.

Ethical Considerations

This study adhered to ethical issues that need to be addressed before, during collecting, analyzing, reporting, sharing and storing of data (Creswell, 2014). The researcher worked on obtaining the respondents' informed consent, observing their right to privacy, protecting them from harm which may be either physical or emotional by the way in which the researcher asked questions and reports the findings.. Ethical issues included voluntary participation, permission informed consent, confidentiality and avoiding harm to respondents involved in the study (Lekule, 2014). Ethical issue is the process of considering rules and regulations that assume to be correct in a given profession or group (Kumar, 2011). This implies that ethics observe the ability of individual to do right things according to one's needs or societal needs or organizational needs. Pachó (2015) identified that when one conducting social science research it is important to consider ethical issues.

4. Findings presentation and discussion

This study intended to examine the influence of sports and games in enhancing students’ academic performance in public secondary schools in Nyamagana District. This chapter presented the findings in relation to the objectives of the study.

The Impact of Sports and Games in Enhancing Students’ Academic Performance

The first research objective intended to determine the impacts of sports and games in enhancing students’ academic performance in public secondary school in Nyamagana District. The findings identified that students’ participation in sports and games bring positive impacts on their academic performance. Sports and games promote cooperation and good relationship between students, teachers and other academicians. Sports and games foster students’ physical fitness build their confidence; promote joyfulness and discipline which provide students with the ability to manage their academic activities well towards its success. The establishments of sports and games in schools have positive effects to students’ performance in their examinations. The schools can use rewards and dedicate enough time for sports and games to motivate students to participate in sports and games resulting in improved academic performance.

Therefore, the absence of sports and games in public secondary schools destroy students’ ability to perform well in

their studies and examinations because of stress, disunity, lack of confidence, diseases and lack of cooperation in different academic activities. Due to this circumstances student found themselves performing poor in their studies automatically. The study also found that most schools do not have access to facilities of sports and games for students. The lacks of access to these facilities make students to miss important practices that improve their academic success. This condition disunites students and makes them to have negative perceptions towards sports and games and studies and large. For example, student’s dropout of school due to the absence of sports and games, since sports and games attracts students’ attendance in secondary schools. Moreover, students may lack the ability of think creatively due to absence of sports and games. According to (Hock, 2018), unique benefits and opportunities for improvement exist within each sport to maximize the health benefits for students. Sports participation has more benefits and positive impacts towards students’ educational development because it stimulates students’ academic performance and higher grades.

Challenges Public Secondary Schools Face in Enhancing Sports and Games.

This section has presented data on challenges schools face in enhancing sports and games in public secondary schools. The respondents were to answer to questions on challenges public secondary schools face in enhancing sports and games in Nyamagana District. The responses were as follows.

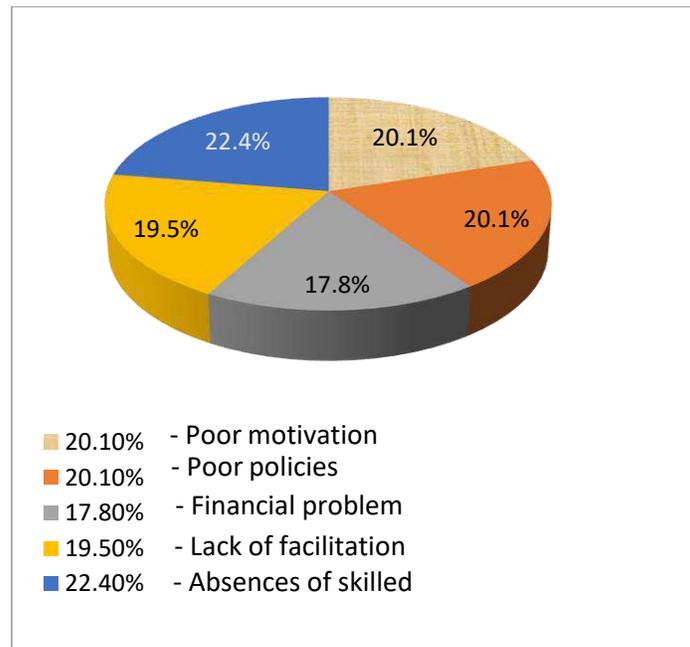


Fig.1: Challenges public secondary schools face in enhancing sports and games.

The questionnaires provided to students and teachers identified that a majority of them strongly agree that the absence of skilled teachers (22%). The findings indicated that (20%) students and teachers agree on poor motivation and poor policies together. Another challenge identified lack of

facilitation like playground and ball (20%) and a minority (18%) agreed there is financial problem in influencing sports and games in public secondary schools, led to poor academic performance of students.

Table 1.: Challenges School face in enhancing the sports and games

Challenges	Frequency	Percentage
Poor motivation	70	20%
Financial problem	62	18%
Lack of facilitation	68	20%
Poor policies	70	20%
Absence of skilled teachers	78	22%
Total	348	100%

Source: Field Data (2019).

Table has indicated challenges facing public secondary schools in Nyamagana District in enhancing sports and games as pointed out by the respondents. They include; absence of skilled teachers, poor motivation, poor sports and games policies, financial problems, lack of facilitation facilities like playground, jerseys, cards and first aid kits.

Challenges schools face in implementing sports and games in public secondary schools.

The study findings established that in the selected public secondary schools in Nyamagana District, there were challenges they face in enhancing or implementing sports and games towards improving students' academic performance. These challenges were, lack of expert teachers in sports, lack of funds, poor government support, lack of sports and games facilities, lack of enough play grounds and students' misbehavior. In the study the respondents identified challenges public secondary schools face in implementing sports and games. since sports and games in one side influence students' academic performance, whereby sports provide a good environment for them to study well, hence reach their expected goals and achievements by giving them the spirit of unity and cooperation, confidence and sharing knowledge with others. On other side absence of sports and games may in the findings objective two on the challenges facing implementation of sport and games activities indicate that, there are numerous challenges facing implementation of these activities in schools, including lack of skilled personnel, limited time, insufficient funds, un conducive environment, low motivation and insufficient facilities were the challenges faced in the implementation of extracurricular activities. This

result implies that, there are a lot of problems faced in implementation of extracurricular activities in schools. Most respondents agreed that in Nyamagana district, there are financial constraints to run these activities from school level to district level. The findings also indicated other challenge as lack of skilled personnel to implement different activities in school. Moreover limited time allocated for extracurricular activities by school were also challenges identified. The findings indicate that the schools did not have enough facilities which would help in easier implementation of sport and games, low motivation among teachers, students and administrators resulted to less participation in extracurricular activities by students. The findings also indicated other challenges as financial constraints to run extracurricular activities, The identified challenges were;

Financial problem

This is a challenge that hinders enhancing of sports and games in public secondary schools. The respondents indicated that most public secondary schools do not have income generating projects and fund raisings to them maintain old sports buildings and playgrounds and also buy necessary sports facilities like balls, jerseys, cards and first aid kits. Instead, they depend on other stakeholders such as the government and other academicians to mitigate this financial problem. According to Zvapano (2017) financial problem in enhancing sports and games is discussed where it was found that it is a challenge which hinders the development of sports and games in different institutions. Financial support is needed in enhancing sports and games with the purpose of running different activities concerned with sports and games, for

instance, managing part-time coaches, preparing rewards, building playgrounds and buying necessary sports and games materials such as balls, jerseys, cards and first aid kits.

According to Moran (2017) in his study done in United States of America identified that there is financial problem due to budgetary restraints, due to increases cost of education and operational activities hence abolition of sports and games as well as physical education activities in some district in US such as Ohio District. The respondents indicated that there was disunity among students and teachers as well as head of schools in public secondary schools, whereby they have a negative perception on the information given by the heads of schools and this raises financial problems which hinder the provision of sports and games. That many schools don't have generating income projects which may help schools to facilitate sports and games by building playgrounds and buying sports and games materials such as balls, jersey, cards, nets, and first aid kit which support and promote the development of sports and games in public secondary schools. It was also identified that the absence of sports and games for students leading to poor academic performance.

Lack of government support

When the Government has poor or wrong perception of sports and games, schools lack both moral and materials support which hinders the provision of sports and games. Based on the findings of the study, the government is the main change agent of influencing sports and games in public secondary schools by setting adequate budget for sports and games, especially for building playgrounds and buying necessary sports and games facilities such as balls, jerseys, cards, boards, nets and first aid kits. The respondents also suggested that the government should make policies to make sports and games to be considered as important activities in public secondary schools to enhance students' academic performance. According to Sanders, (2014) lack of government support was identified as one of the barriers which hinder the development of sports and games in secondary schools. Lack of support from the government for sports and games make them to disappear from schools.

Lack of professional sports and games teachers

In enhancing sports and games, public secondary schools need qualified or skilled sports and games teachers who have the ability to mobilize, organize and plan sports and games activities. The respondents suggested that most public secondary schools lack qualified or skilled sports' and games'

teachers to ensure that sports such as football, basketball, rugby, handball, netball, volleyball and tennis are established and maintained as lifelong practices for students. Sports and games in schools promote good academic performance for students because of cooperation with each other and physical fitness from sports and games. Moreover, the respondents also noted that professional sports and games' teachers have strong passion for them and this ensures that sports and games are considered as important activities that students should get involved in for their own personal gains, especially for their academic successes. It is important to have professional sports' and games' teachers because teachers who lack enough experience, skills and knowledge on sports and games cannot manage sports and games properly in public secondary schools, teachers and students also work together in enhancing sports and games (Osborne, 2016).

Poor Motivation

From the study it was found that poor motivation is among the barrier which hinder the influence of sports and games in enhancing students' academic performance. Poor motivation was identified the source of poor students' academic performance. Motivation plays a great role in enhancing sports and games in public secondary schools. Students are not motivated by only giving them time for sports and games but also facilities like playground, balls, jersey, and cards are important in motivating students. Some of other motivation for students includes rewards, sports and games competition and good sports and games programs. The importance of recognizing students who win different competitions as one of the motivation make them to feel comfortable and appreciated, the similar concept was also discussed in (Kirk, 2010). Moreover motivating students participating on sports and games build conducive environment for students' academic performance on attaining their achievements. Poor motivation in sports and games leads to poor students' academic performance, because they will lack energy, unity, discipline, and cooperation.

Strategies public secondary schools should implement to influence sports and games towards students' academic performance.

This section has presented findings on possible strategies that public secondary schools could implement to influence sports and games towards students' academic performance in Nyamagana District the responses were as follows.

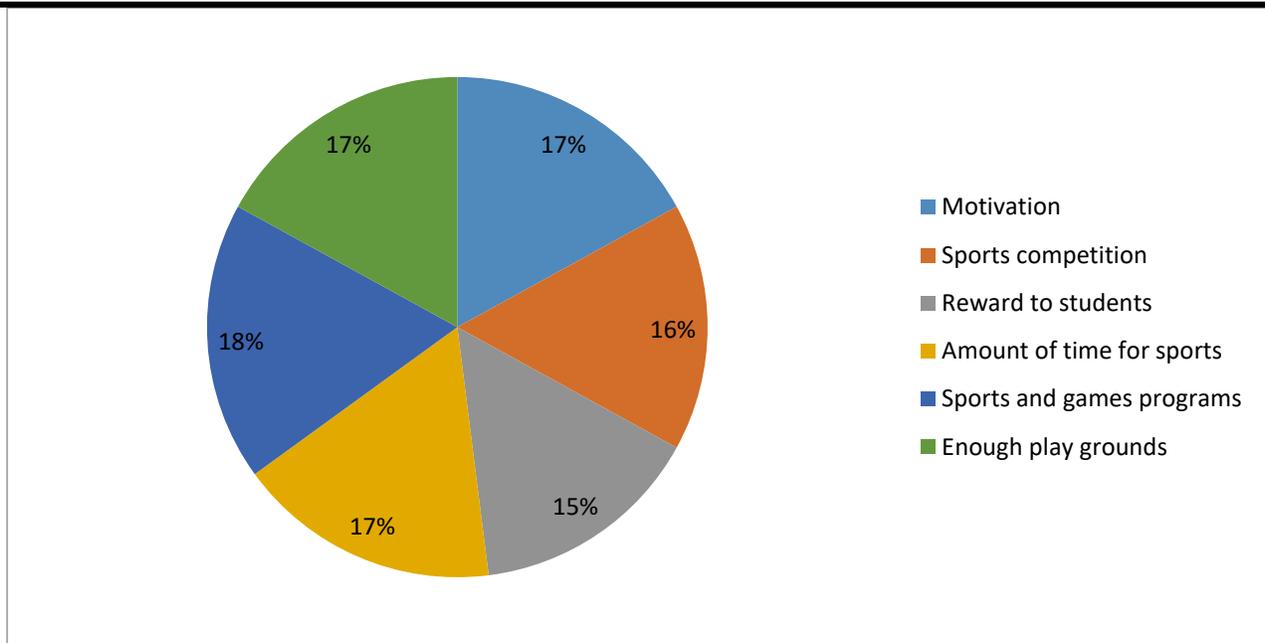


Fig.2: Strategies public secondary schools should implement to influence sports and games towards students' academic performance.

Table2. Possible strategies school should do to influence sports and games at schools towards students' academic performance.

Strategies	Frequency	Percentage
Motivation	77	17%
Sports competition	70	16%
Rewards to students	67	15%
Amount of time for sports	78	17%
Sports and games programs	80	18%
Enough play grounds	78	17%
Total	450	100%

Source: Field Data (2019).

The table has shown strategies that public secondary schools should implement to influence sports and games towards improving students' academic performance in Nyamagana District. The findings revealed that, rewards to students, amount of time for sports, good sports' and games' polices, inter-school competition, are the strategies that public secondary schools should implement to influence sports and games towards improving students' academic performance. In the interview with the heads of school they were quoted saying that participating on sports and games influencing

students' academic performance. Make students develop their carrier to meet their expected goals of achievements.

Provision of Rewards

When the heads of schools were asked on the strategies that can enhance sports and games towards improving students' academic performance, they suggested that, rewards should be given to students who win competitions, something that could make them to feel appreciated and improve their thinking ability and discipline. Therefore, they believed that,

appreciation leads to good academic performance. In responding to this argument, first HOS said that:

Ilikuwa na hamasa za michezo Zaidi shuleni, wanafunzi wapewe medari (zawadi) pindi wanaposhinda michuano mbalimbali, kwa mfano wanafunzi wanao jituma Zaidi na kusababisha ushindi ndani ya timu zao, wapewe zawadi ili wanafunzi wengine wajitume na kuwapa motisha juu ya kujituma na kushirikiana na wanafunzi wenzao kila maeneo, Hivyo hii itawasaidia kuinua juhudi na kuinua uhamasishaji wa michezo miongoni mwa wanafunzi ambao pia huinua maendeleo ya taaruma na kufikia malengo yao kwa ujumla. [Translation: In order to influence sports and games in public secondary schools, rewards should be given to students who win the competition and those who put their effort on sports and games. This motivates other students to participate effectively on sports and games, which create unity and cooperation among them on achieving their expected goals as well as good academic performance.]

Trained Sports and Games teachers

Teachers with sports and games skills are aware on training and guiding students and they have skills that are capable on enhancing sports and games in public secondary schools towards students' academic performance. Therefore it was suggested that, teachers should be trained or given skills on sports and games that ensuring the ability on establishing and promoting sports to students in public secondary schools, this also promote enough sports and games skills to teachers in establishment and implementing sports in public secondary schools, lead to good students' academic performance.

The second HOS said that:

Walimu wa michezo inabidi wawena mafunzo na ujuzi wa michezo. Pamoja na kutumia uzoefu ila ujuzi na kipaji cha michezo kwa walimu wa michezo mafunzo ni muhimu sana katika kuhakikisha uhamasishaji wa michezo katika shule za sekondari za serikali. Mwalimu wa michezo aliyepitia mafunzo ana fahamu namna ya kufundisha, kuhamasisha, kukuza na kuimarisha michezo kwa wanafunzi ili kukuza vipaji vya wanafunzi tokea chini. Hivyo ana fahamu ni njia gani ya uhamasishaji aitumie ili

kuhasisha michezo kwa wanafunzi wake na ana namna nyingi ya kufundisha na kuhamasisha.

[Translation: Sports and Games teachers need to be equipped with sports and games skills. Even if most sports and games teachers are using experiences and talents in influencing sports and games but training teachers is important in influencing sports and games in public secondary schools. A well trained sports and games teacher has skills on influencing and developing sports and games to students on identifying and developing talents of students. So he/she knows ways to influence sports and games to his or her students, since has different methods in motivating and promoting sports and games to students.]

Also the third HOS added that:

Kufundisha michezo ni kipaji lakini pamoja na kuwa na kipaji cha kufundisha michezo ni vizuri kukiendeleza kwa kupitia kozi mbalimbali ili kuimarisha maarifa na ujuzi wa kufundisha wanafunzi michezo. Mwalimu aliye pitia mafunzo anajua jinsi ya kufundisha na kuhamasisha michezo kwa wanafunzi mashuleni. Hivyo ni vyema walimu wa michezo wapiti mafunzo ya michezo kujifunza sharia na kanuni za michezo mbalimbali. [Translation: Leading sports and games is brilliance but also talents that need to be developed through various sports and games courses to enable one to be competent. A trained sports and games teacher have the ability on influencing sports and games in public secondary schools, it is better for sports and games teachers having sports and games trainings to learn sports rules and strategies.]

Sports and Games competitions

Public secondary schools should establish and develop sports and games competitions both inside a school and outside a school to compete with others on sports and games, for the purpose of strengthening sports and games in public secondary schools by influencing students to participate on sports and games for increase their academic performance and meet their expected goals

The another HOS said that:

Kuandaa mashindano au michuano na ligi mbalimbali katika michezo tofauti tofauti ndani na nje ya shule za serikali ili kukuza na kuendeleza michezo mashuleni. Hii inaimarisha kujiamini kwa wanafunzi na kukuza umoja, mshikamano na

mahusino mazuri kwa wanafunzi wa ndani na nje ya shule, na kuchochea fikra za ushindani na ushirikiano kwenye masomo ili kufikia malengo yao kwa ujumla. [Translation: Public secondary schools should prepare different sports and games competitions for the purpose of developing and strengthening sports and games in public secondary schools. Sports and games competitions promote confidence to students, unity and cooperation as well as good relationship between students in their sports and academic activities. Also it motivates and rise competitive ideas in their studies for achieving their expected goals in their academic context.]

Enough play grounds

Enough play grounds in public secondary schools provide good access for different sports and games, whereby promoting different varieties of choices for students to choose kind of sport he or she like. It can be football, netball, handball, baseball, basketball and volleyball or whatever he/she likes to play. The presence of different many play grounds in public secondary schools influencing sports and games on enhancing students' academic performance.

The second HOS said that,

Serikali pamoja na uongozi wa shule za sekondari za serikali wahakikishe ya kuwa kila shule inatakiwa kuwa na viwanja vya michezo mbalimbali vya kutosha. Hii itasaidia kuhamasisha na kukuzavipaji vya wanafunzi kwanzia chini kwenda juu, sababu hutoa nafasi ya kila mwanafunzi kuonesha kipaji chake katika mchezo husika anao upenda toka moyoni mwake. Hapa husaidia kuimarisha mahudhulio mazuri ya wanafunzi kupata nafasi ya kujifunza/kusoma inayopelekea wanafunzi kufauru vizuri katika masomo yao. [Translation: Both Government and school management should ensure enough play grounds in public secondary schools. Whereby enough playgrounds motivate and develop different talents of students from the bottom, when they get enough chance to show what they like on sports and games. Also influence students' attendance in public secondary schools which increase students' academic performance.

Strategies public secondary schools should adopt to influence sports and games for students' academic performance.

The third research objective intended to find out possible strategies that public secondary schools can adopt to influence

sports and games for students' academic performance. From the findings, the study identified that giving rewards, sports competition, and well planning of sports and games programs were the strategies for enhancing sports and games towards students' academic performance in public secondary schools.

Provision of Rewards

Based on research findings, rewards should be given to students who win competitions, something that could make them to feel appreciated and improve their thinking ability and discipline. Therefore, participants in the interviews believed that, appreciation results to good academic performance. For instance trophies, medals and even money if given can motivate winners to keep up efforts in ensuring stiff competition in sports and games towards students' academic performance. Rewards motivates students towards physical education and sports participation, whereby students desire to put in more effort on sports and games to win competitions, thereby, promoting sports and games in secondary schools to enhance students' academic performance (Kirk, 2010).

Sports competition

Sports and games competition between classes (inter-class competition), and between schools (inter-school competition) allow students to get enough chance to participate in sports and games. From the research findings, the respondents suggested that sports competition reinforces unity, cooperation, confidence, provide energy/healthiness, mold discipline on students, and increase creativity in students. Collectively, they all these enhances students' academic performance. As such, schools should organize sports and games competitions since they motivate students to perform well academically (Moran, 2017).

Dedicating enough time for sports and games

Schools should set enough time for sports and games. The respondents suggested that dedicating enough time for sports and games for students help them to reduce stress, reduce academic overloaded and create fresh wonderful moments of joy. Together, all these enhance students' academic performance. The respondents also noted that giving students enough time for sports and games gives them the ability to think creatively and fosters creativity (Osborne, 2016).

Motivation

Respondents suggested that motivation to students is a way of influencing sports and games hence contributes to students' academic performance. Students need to be provided with different kinds of motivations in order to encourage them to participate in sports and games to the students' academic

performance. For examples, motivations for the students include enough time for sports and games, sports and games competition and rewards. This makes students feel good, energy and unity to students, then good academic performance (Adeyeye & Kehinde, 2013). Schools should make their efforts in providing motivation to students. The motivation can be in the forms of materials and non-materials. Non-material incentives may also satisfy students and raise their academic performance, for instance, when students are appreciated in sports and games which influence students' academic performance. In this study, the respondents indicated that, motivation to students is a way of enhancing students' academic performance. When students motivated on sports and games will increase their academic performance. In his study Byrne (2014) suggested that schools are supposed to support and give opportunities students to sports and games. Therefore proper motivation of students on sports and games result into students' academic performance as students will be happy and feeling recognized and appreciated can result into students' academic performance.

Trained Sports and Games teachers

In this study, most of the respondents identified that, training sports and games teachers is among the strategy of influencing sports and games to students in public secondary schools. The findings of the study also identified that, sports and games teachers should be trained on sports and games as well as physical skills that are managing them to have skills towards sports and games in different institutions. When teachers especially sports and games teachers are trained on physical skills or sports and games help them to understand the rules and strategies of sports and games. But when teachers are lacking sports and games skills or physical education skills, cannot be capable of training or influence sports and games to students in public secondary school hence fails to enhance students' academic performance. in the study of Peracek (2018) identified that the importance of training sports and games teachers that contribute to students' academic achievements. This implied that, when sports and games teachers have been trained on the best methods of practicing physical education skills or sports and games in school hence students' academic performance.

IV. CONCLUSION

The research findings have identified the important role played by sports and games in enhancing students' academic performance in public secondary schools in Nyamagana District, Mwanza. In order to promote good academic

performance of students and high quality education in public secondary schools, a combination of interrelated factors or extracurricular activities including sports and games, environmental clubs, English club, science clubs and PCCB clubs should be taken into consideration. The involvement of students in different activities at school, especially in sports and games foster their academic achievements. When students get involved in sports and games, it leads to improved health, cooperation, discipline, improved thinking capacity and gives energy for learning making student's to be able to concentrate in learning. According to Hock (2018), unique benefits and opportunities for improvement exist within each sport to maximize the health benefits for teens. Sports participation has more benefits and positive impacts towards education because it stimulates good academic performance and higher grades to students. Currently the Speaker of the National Assembly of Tanzania, Job Yustino Ndugai in a meeting he suggested what should be done in order to improve and influencing sports and games in our country in general. Whereby he suggested that; establishment of sports and games academy by clubs, private companies and institutions, the government and other private sectors should invest much on sports and games, to advice the ministry of education that sports and games should be important part in our curriculum, supplying enough delicious food to players from Wards, Districts and religions and also ensuring good sports and games leadership as well as managements. Sports and games improve students' academic performance as the theory of sports identified the unique benefit of sports and games to the students, and the theory of sport proposed by Mandelbaum (2005), which support sports and games that if anyone gets involved in sports and games may build confidence, energy, unity and cooperation. The theory identified that America's century-long love affair with team sports and games shows how sports and games respond to deep human needs, and also it identifies ways in which baseball, football and basketball became big national institutions and how they reached their present situation or forms which is good.

All in all the research findings have identified extracurricular activities participated by students in public secondary schools and the contribution of extracurricular activities on students' academic development. In order to develop students' academic performance schools should make equal priority on all dimension of curriculum and extracurricular activities significantly improve provision of education and curriculum development in general. Students involvement in extracurricular activities such as sports and games, school debate, school clubs, agricultural program become a way of

developing students' talents and those who positively socialize increase creativity, reduce behavioral problems because students become well disciplined, improved skills and they become physically fit, improving behavior, increase school completion and make successful adults and social aspects.

Recommendations

- i. Government through minister of education and vocational training should establish different project, seminars and work-shops for teachers, heads of school and district educational officers in order to get skills on extracurricular activities. With proper skilled teachers it will be easily to implement extracurricular activities in school because they can be aware on how to organize and supervise extracurricular for the benefits of the whole society.
- ii. Parents and community members should be involved in initial stage in policy formulation in order to make effectively implementation of extracurricular activities in order to improve students, holistic development.
- iii. Membership of the community should be political mobilized through education and training on the importance of extracurricular activities which lay an important role on development of a child in general.
- iv. The government should employ teachers and support staff with required qualification to implement extracurricular activities. It should also employ education planners to work in schools so as to get effectively planned extracurricular activities.

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Explorative Study on Leadership Styles of Heads of the Public Technical Training Institutes in Bhutan

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Abstract— *The research is undertaken to ascertain leadership styles deployed by heads of public Technical Training Institutes (TTIs) in Bhutan. Quantitative research method was used for this study. A population of 160 staff members of six public TTIs was targeted where 122 staff members responded to the survey questionnaires. All the data were collected via Google Form and were analyzed with descriptive statistics.*

The finding of the research revealed that democratic leadership style was most prevalent among the heads of public TTIs at high level with the mean score of 3.66. It was closely followed by laissez-faire leadership style with mean score of 3.58 at high-level. The least prevalent leadership style among the heads of public TTIs was found to be autocratic leadership style which scored moderate level with mean score of 3.27.

Thus, it was concluded that heads of the public TTIs employed all types of classical leadership styles though at different level. An in-depth study on leadership styles of heads of public technical institutes in Bhutan with various variables is proposed for future researchers.

Keywords— *autocratic, democratic, laissez-faire, leadership styles, technical training institutes (TTIs).*

I. INTRODUCTION

1.1 Research Background and the Rationale

The art of leadership is as old as age itself stated Lucas and David (2008). But the style of leadership varied with time. Autocratic leadership style which was prevalent in medieval periods is being outshined by democratic leadership style that is found more popular today. Whatsoever the styles, leadership plays a significant and vital role in gearing society and organization in progression.

Wangmo (2013) asserted that “In educational institutions the importance of leadership is as crucial as in any organization for better performance and achieving the goals. Khata Jabor et al (2012) also cited that importance of leadership in technical and vocational education cannot be overemphasizing, for without proper leadership in Technical and Vocational Education and Training (TVET) programs, the goal to prepare people to be self-reliance will not be possible. In devoid of appropriate and efficient leadership styles of leaders, organizations will not succeed in achieving their goals despite the best policies and resources at hand. Wangmo (2013) stated that though organizations are fully prepared with necessary equipment,

human resources and budgetary requirement, it will not be of any benefit if leaders are in deficit of leadership skills.

It is thought that one of the main problems in achieving organizational goals and satisfying the need of society in a developing country is capacity and effectiveness of leadership (Kedar & Geleta, 2017). In Bhutan, societies put blames on TVET sector for not being able to meet ever-growing demand of skilled work force in the country (MoLHR, 2020). Despite receiving immense emphasis from the government due to the growing industrial scenarios, TVET sectors in Bhutan is yet to produce enough adept workers. The Royal Government of Bhutan (RGoB) has in the last decade invested significantly on the expansion of TVET to supply skilled and competent human capital in the country, and has initiated TVET reforms. It is clearly revealed in TVET Blue print 2016-2026 (MoLHR, 2016) that considerable progress has been made in setting up modern TVET system. Six Technical Training Institutes were established under Ministry of Labour and Human Resources (MoLHR) in the country to train youths on vocational skills. Though TVET was disregarded as a noteworthy player from academic angle, those declarations are

gradually disregarded as many are conscious that TVET are the best providers of knowledge and skilled workers in the 21st century (Ahmad, 2015).

As true to all organizations, the realization in achieving goals to yield skilled youth in TVET institutes will also depend to a large extent on its leadership. The aim to prepare individuals for self-reliance will not be feasible in absence of appropriate leadership in TVET. Thus, in TVET development perfect leadership is a must, reflected Khata Jabor et al (2012). Leadership and leaders are the pursuers of TVET successfulness suggested Brennan (2014). In fact, in Bhutan TVET was incepted as early as in 1961 with the commencement of First Five Year Plan (MoLHR, 2016). Despite its early commencement the progress in TVET system in Bhutan has lagged far behind for so many decades. The MoLHR developed TVET blue print 2016-2026 to uplift and revamp TVET system in Bhutan. The second pillar of the blue print framework stresses on "Improve Quality" issues that includes the managerial capacity within the TVET providers. And in the blue print it is also mentioned that more emphasis must be given to training and development of principals. This directly focuses on capacity building of the leadership of heads of TTIs in Bhutan.

Previously heads of the TTIs were appointed based on ability and experience of individuals in TVET field by concerned authority without having to undergo selection processes. However, the principal-ship recruitment process in TTIs was rationalized in 2016 with the implementation of TVET blue print 2016-2026, and thereafter principals (heads) in TTIs were recruited through open competition based on Bhutan Civil Servant Rules (BCSR), 2012 selection criteria since 2017.

Further, in effort to transform TVET, MoLHR has come up with TVET Statistics of Bhutan 2020 wherein quality training education and effective TVET governance are considered vital. Governance includes leadership. Popa (2012) expressed that leadership style and its factors have to be examined and adapted to new requirements for an organization to enhance its performance.

At this juncture no researchers or organizations seem to have carried out any study on leadership styles of the heads of TVET institutes in Bhutan. Thus, the researcher is motivated to explore types of prevalent leadership styles amongst the heads of public TTIs in Bhutan.

1.2. Research Questions

1.2.1. What are the leadership styles of head of public TTIs in Bhutan as perceived by their staff?

1.2.2. Which leadership style is the most prevalent amongst the head of public TTIs in Bhutan as

perceived by their staff?

1.2.3. Which leadership style is the least prevalent amongst the head of public TTIs in Bhutan as perceived by their staff?

1.3. Research Objectives

1.3.1. To study the leadership styles of head of public TTIs in Bhutan as perceived by their staff.

1.3.2 To determine the most prevalent leadership styles amongst the head of public TTIs in Bhutan as perceived by their staff

1.3.3 To examine the least prevalent leadership styles amongst the head of public TTIs in Bhutan as perceived by their staff.

1.4. Research Scope and Limitation

The data were collected from six public TTIs located in various regions of Bhutan, and so, it had a wide range of research coverage. A total of 160 staff members in the selected institutes were the target population.

Despite the scope of mixed methodology, the study was limited to simple descriptive survey. The research site was confined to only six Public TTIs under MoLHR as they share the same situation, policies, medium of training delivery instructions and are under same administrative directives.

1.5 Research Contributions

The study provided clear understanding of leadership styles prevalent amongst the head of public TTIs in day-to-day administration and management of their institutes. The outcome could be used as benchmark or mechanism for policy enhancement in TVET system in the country. The findings are also expected to support authorities involved in monitoring institutes where special stress should be positioned on leadership programs that could yield better result. The result of research might motivate future researchers to identify variables that are dependent on leadership styles, and they can undertake further researches.

II. LITERATURE REVIEW

2.1 Brief history of TVET institutes in Bhutan

Modern education system was incepted in Bhutan in early 1960s with the launching of First Five-Year Plan (FFYP) in 1961, which was aimed to address the basic educational needs, and to develop human resources that were necessary for the nations' social and economic development (AES, 2012). As the FFYP implementation begun, Bhutan had heavily depended on skilled expatriates in accomplishment of the plan. The obligation to produce

national skilled workforce thus had become imperative. So, the first TVET institute was established during the tenure of FFYP.

Don Bosco Technical School was established in 1965 at Rinchening (popularly known as Kharbandi), Phuentsholing to equip Bhutanese youths with modern technical skills. It was the first TVET institute in the country. Don Bosco Technical School was subsequently renamed as Royal Technical Institute (RTI). After a decade of establishing the first TVET institute, qualification up gradation prospects for finest graduates of Don Bosco was made accessible with the establishment of Royal Bhutan Polytechnic at Dewathang in 1974.

In 2003 RTI was bifurcated into four Vocational Training Institutes (VTIs) that were spread over several regions across the country. These institutes were VTI Chumey at Bumthang, VTI Khuruthang at Punakha, VTI Rangjung at Tashigang, and VTI Samthang at Wangdiphodrang.

The objectives these VTIs were to enhance accessibility to school leavers and unemployed youths in various corners of the country to get skilled for gainful employment in job markets. In 2007 another VTI institute was established at Sershong under Sarpang district. And in 2008 VTI Thimphu was set up at Luntenzampa in Thimphu. These six VTIs were later renamed as Technical Training Institutes (TTIs).

2.2 Leadership Theories

2.2.1. Definition of Leadership and Leadership styles

Leadership is a vast and broad term. "The term leadership is a complex concept which cannot have exact definition. It solely depends on how one perceives the leader in ones organization" specified Wangmo (2013). Stogdill (1974) stated that the definitions of leadership are various and as many as academicians who defined it. In fact, Rost (1991) found 221 leadership definitions from his extensive reading of 557 books.

Leadership is an interactive progression in between a leader and followers whereby leaders use authorities or influences to inspire and persuade followers to achieve organizational goals efficiently explained Kim (2010). Kusin (2015) defined leadership as ability of an individual to motivate, influence and enable others in successful and effective contribute in organization. Leadership is the process whereby leaders influence their followers in a way that they willingly strive towards achieving organizational goal specified Malechwanz (2018). Although there are many leadership definitions, the sole responsibility of leadership remained the same, that is to take charge of an organization in accomplishing its

goals.

Similar to leadership, leadership style cannot be singly connoted in unanimous. Its meaning and concept may vary from one individual to another depending on circumstances, and on how one comprehends leaders around them. The concept and definition of leadership style may differ from one person or one situation to another, mentioned Veliu et al (2017). Style is roughly equated to leader's behavior (Khan et al, 2015). Countless metaphors on leadership styles have been concluded by academicians like:

Oyetunji (2006) noted that "Leadership style is a way a leader leads." Nsubuga (2008) held it as "Modes or methods of leadership adopted by various leaders". Northouse (2007) defined it as the "Behavior pattern of a person who attempts to influence others". Despite numerous discoveries on denotation of leadership styles, its functional role on leaders are identical. As such, the researcher in this study defines leadership styles as a character portrayed by head of organization to gear subordinates towards organizational goals.

2.2.2. Theories of Leadership and leadership styles

Leadership theories- researchers had derived numerous theories before, and may emanate more theories in the future. However, leadership theories can be grouped into categories such as Suberi (2013) based leadership styles on trait, behavior and situation. Most theories on leadership are described on the "Trait, behavioral, and contingency approaches" (Mullins, 2002).

2.2.2.1 Trait Leadership Theory

Trait theory was basically rested on innate distinctiveness of a person. Leaders must have an inherent capability and personality of their parents or ancestors. This theory believes that 'leaders are born'. It emphasizes on the personal traits of the leader such as appearance, height, initiative, aggressiveness, enthusiasm, self-confidence, drive, persistence, interpersonal skills and administrative ability (Adeyemi, 2010). This theory was one of the first studies carried out on leadership in the early 20th century.

Nsubuga (2008) however argued that leadership that emphasized on individual personality and skills is no longer perceived as the sole determinant of a good leader. An appropriate mixture of personal behaviors is seen as an important contribution to effective leadership. Thus, the behavioral leadership theory came to an existence.

2.2.2.2 Behavioral Leadership Theory

Behavioral leadership theories stress more on leaders' behaviors in contradictory to trait theory. The first behavior leadership study was conducted at Iowa

University where Kurt Lewin navigated a group of academics to find out leadership styles in 1939 (Clark, 1997). The team found three major leadership styles: autocratic, democratic and laissez-faire. The detail concept of these leadership styles are as follows:

2.2.2.2.1 Autocratic leadership style:

This style is also recognized as “Authoritarian leadership Style” (Cherry, 2020), and considered as “Classical Approach” (Khan et al, 2015). Such leaders monitor their followers closely, and ensure that tasks are accomplished in a given time (Mullins, 2002). Leaders who fall under this style usually control decisions with diminutive or no acceptance of contributions from their subordinates.

Decisions enforced on the team by this type of boss are neither discussed nor willingly acknowledged by their subordinates. Greenfield (2007) believed that decisions imposed on employees are non-discussed. Hoyle (2012) shared that autocratic styles can be presented in pyramid of hierarchy, leader on top and employees below. Authoritative character is main feature of autocratic leader over stakeholders. Northouse (2012) claimed that leaders in this category demonstrate that they are in command, and exert influence and control over their employees.

Autocratic leaders “Centralizes authority, dictate work methods, take unilateral decision and limit employee participation” Boje, (2000 cited in Mabuku, 2009). Oppressive leaders command their associates what to do, how to do, when to do, where to do and when to complete. So, these categories of leaders are considered very stringent. Durosaro (n.d) denoted autocratic person in charge as “Tough Battler and strict disciplinarian”. They direct or threatened workers to get organizational goals achieved. Thus, the style is seen as task-oriented (Dubrin, 1998).

Shortfall of this leadership style is that it may cause hindrances to employees’ creativities, and they could never be independent. They could not do a thing in devoid of guidances from leaders (Northouse, 2012). Chukwusa (2018) determined that autocratic styles avert creative ideas. Followers try to accomplish the task out of fear, and therefore the quality of tasks is compromised.

Any response or reaction gained through threat and fear remains relatively for a short term. Rahbi et al (2017) stated that dictatorial nature of authoritarian leadership style can be detrimental in the long term. Chauhan (2017) too pointed out that autocratic leadership style would be ineffective and will have negative influence as it is a short-term approach. He further linked autocratic with inefficiency and discouragement for faculties who believe in democracy. Martin (2009) supported that

autocratic decision undermines work morale.

In spite of many drawbacks, such style is necessary and has numerous benefits. Tasks are usually accomplished on time by way of providing clear directives to followers. According to Nsubuga (2008) head teachers generally accentuate autocratic leadership style since it reaps results quicker as subordinates toil with compulsory pressure to meet deadlines. Decisions are top down, and hence valuable times are not wasted in lengthy and time consuming discussions. Work quality is ensured due to fear towards leaders. Autocratic is seen advantageous when swift verdict is crucial (Chukwusa, 2018). In the event that there is a major conflict amid subordinates, the leader cannot wait for collaborative decision. The leader has to decide instantly without consensus. So, this style could be favorable where situation and task mandate urgent actions. Adept, well-versed and knowledge laden must be strength of these leaders.

2.2.2.2.2 Democratic leadership style

According to Nsubuga (2008) some of the main characteristics of this leadership are transference of authority, participatory planning and mutual communication. While Oyetunji (2006) referred that the major point of focus for participative style is sharing. This leadership is also branded as “participative leadership” (Mind Tools, 2008) or “shared leadership” (Cherry, 2020) as it lets followers to partake in decision-making process. Employees are held accountable for their own decisions and actions (Avolio et al, 2009). Northouse (2012) reflected that more than controlling their employees, democratic leaders work with employees, try their best to treat everyone equally with no prejudice, and hold themselves at par with their employees. They trust their staff and consider that employees are in better position to understand the problem and reflect on it. David (2007) maintained that democratic impacts the trust levels of employees.

Employees can express their opinions, and decisions are thus common. So, employees’ responsiveness to decision is definite with the enhanced motivation, high morality, improved creativity and boosted efficacy. Goleman et al (2002) accepted that democratic leader elevate subordinates’ self-esteem, and organization can have positive work atmosphere.

Though democratic leaders seem most appropriate approach as mentioned by Mabuku (2009), it also has downsides such as wastage of time due to prolonged discussion. Accomplishment of task is not as effective compared to authoritarian style (Northouse, 2012). In some cases followers feel pressurized due to lack of knowledge or expertise on particular discussion.

More shortfalls of the style are, communication failure and weak conclusion by unskilled groups, revealed Cherry (2020).

2.2.2.2.3 Laissez- Faire leadership style

This leadership style is labeled as “Non-leadership” (Northouse, 2012), “Passive Leaders” (Yang, 2015) or “No leadership” (Aydin et al, 2013). This type of leadership is characterized as least bothered of their employees and decision- making process. Greiman et al (2007) claimed such leaders relinquish responsibilities, delay decisions and fail to provide requested backing. In organizations with these types of leaders, decisions are overridden by followers. These leaders rely on subordinate’s decisions irrespective of how valid the subordinates’ decision is for the organization. Nsubuga (2008) noted that there is no person of authority in the organization. Manager leads the organization indirectly. Laissez-faire style tolerate leaders losing control over their subordinates. This was backed up by Ololube (2013) who stated that this style arises when the leader doesn’t have appropriate control on their subordinates.

In absence of instructions from such leaders, employees are jumbled not knowing what, how, and when to proceed with the task. Working atmosphere is haphazard and indiscipline. Subsequently, it leads to unsatisfactory accomplishment. The leader provides very less control due to which staff often linger unsure of their roles and responsibilities (Rahbi et al, 2017). With no effective direction from leaders, task goes off track, missing deadlines (Malechwanzi, 2018). Enthusiastic employees become frustrated, unmotivated and disheartened whereas those lazy employees with undedicated nature may follow their leaders’ “hand-off” characteristic on their responsibilities.

The laissez-faire leadership style also provides opportunities to every individual to decide on their own, and work accordingly with no intrusion from his/her leader. According to Mind Tools (2008), such leadership plays best if employees are adept, qualified, committed and self-starter.

Autocratic, democratic and laissez-faire leadership styles are undeniably different from each other as explained. Each style has its own distinctiveness. Yet, it cannot occur disjointedly on its own; they occur in coherent from high to low leadership effect. “Laissez-faire style implies low control, autocratic style high control and democratic remains in between” emphasized Musera et al (2012). Though there are different leadership styles, almost all leadership styles appear to imitate characteristics of these three major leadership styles; autocratic, democratic and laissez-faire.

Mgbodile (2004) specified that in spite of diverse terminologies deployed for leadership styles, in general the styles practiced by leaders are of three types- autocratic, democratic and laissez- faire.

Thereby, researcher aims to discover which of these three leadership styles (autocratic, democratic and laissez-faire) are employed by heads of the Public TTIs in Bhutan.

III. RESEARCH METHODOLOGY

3.1 Design

This study was carried out using the descriptive survey, a quantitative method. The advantages of quantitative method are numerous. It provides the breadth of coverage within short span of time. The closed-ended survey questionnaire is also easier and more convenient for respondents to answer. Further, the quantitative design does not involve direct connection between researcher and the samples. Thus, the bias was being controlled. Research data were collected from respondents via *Google Form*. In the current situation of global COVID 19 pandemic, medium of data collection via online *Google Form* was perceived the safest and viable.

3.2 Population and Sample

The target population was 160 staff of six public TTIs of Bhutan. Based on Krejcie and Morgans’ table (1970) the sample size of 113 staff of six public TTIs is determined. Survey questionnaires were mailed to the targeted population in each institute, and aimed to collect at least the minimum set sample. Ultimately, the researcher received completed questionnaires from 122 respondents.

3.3 Research Instruments

Multiple choices and filling the blanks were administered to collect demographic data of participants. To identify leadership style of head of public TTIs of Bhutan, the descriptive questionnaire for quantitative data with five-point

Likert scale Leadership Styles Survey (LSS) questionnaires of Clark (1998) was modified and administered.

3.4 Quality of the Research Instruments

The reliability of the instrument was trial tested in one of the institutes that shared similar characteristics to sample institutes. Cronbachs’ coefficient alpha was applied to ensure reliability of the questionnaires. The questionnaires scored Cronbachs’ alpha coefficient of 0.90 meeting the required Cronbachs’ coefficient alpha of at least 0.65.

3.5 Research Ethics and Data Collection

Official request letters were sent to all the heads of the sample TTIs for granting access to research survey data collection. Consent note along with the questionnaires were mailed to all participants via *Google Form*. Participants were also contacted via telephone calls individually to assured that responses will be treated with confidentiality, and that the participants will remain anonymous though out. The questionnaires administered did not require participant’s name or other form of identity description.

3.6 Data Analysis

Data collected were tabulated in the Statistical Package for the Social Sciences (SPSS). Descriptive statistics like mean, standard deviation, and percentage were used to analyze data.

4.2 Staff’s perception on their institute heads leadership styles

Table 4. 1 Staff’s perception on Autocratic Leadership style (n=122)

Statements	\bar{x}	S. D	Perception Level
1. Always retains the final decision-making authority.	3.67	.857	High
2. Does not consider suggestions made by us.	2.84	1.206	Moderate
3. Tells staff what has to be done and how to do it.	3.81	.894	High
4. Tells us not to ever do that again and make a note of it when we make mistake.	3.66	.878	High
5. Does not allow new staffs to make any decision unless it is approved by him/her.	2.93	1.148	Moderate
6. Tells us if a procedure is not working correctly and establish a new one when something goes wrong.	3.65	.978	High
7. Closely monitors us to ensure that we are performing correctly.	3.63	1.022	High
8. Likes the power that his/her leadership position holds over us.	3.45	1.005	High
9. Directs or threatens with punishment in order to get us to achieve the organizational objectives.	2.46	1.200	Low
10. Does not believe in our creativity and ingenuity to solve organizational problems.	2.68	1.187	Moderate

Note: 1.00-1.80= Lowest, 1.81-2.60= Low, 2.61-3.40=Moderate, 3.41-4.20= High, 4.21-5.00= Highest

As seen in table 4.1, item 3 “Tells staff what has to be done and how to do it” received the high level of staffs’ perception with the mean score of 3.81. However, for item 9 that stated “Directs or threatens with punishment in order to get us to achieve the organizational objectives.” was rated the least with the mean score of 2.46.

IV. RESULT

4.1 Demographic data of participants

59% of respondents were male and 41% female. 57.4 % had Diploma qualification, followed by 21.3% Bachelor Degree. Only 1.6% respondents had Master Degree. Majority of respondents (47.5%) were in 31– 40 years age range group. Only 14% of respondents was in the age range of 40 plus. The oldest respondent was 54 years old and the youngest was 23 years old. The mean age was 34.3. Majority of respondents (49.2%) had job experiences of 1 – 10 years while only 12.3% had 20 plus years. The job experiences of respondents ranged from 2 to 36 years with mean experience of 11years.

Table 4. 2 Staff's perception on Democratic Leadership Style

(n=122)

Statements	\bar{x}	S. D	Perception Level
1. Always tries to include one or more of us in determining what to do and how to do it. However, he or she maintains the final decision-making authority.	3.86	.816	High
2. Asks for our ideas and input on upcoming plans and projects.	3.94	.998	High
3. Calls a meeting to get staff advice when things go wrong and need to create a strategy to keep a project or process running on schedule.	3.89	.964	High
4. Creates an environment where we are given an ownership of the project and allow us to participate in the decision-making process.	3.68	.973	High
5. Asks us for our vision of where we see our jobs going and use it for wherever appropriate.	3.48	.938	High
6. Allows us to set priorities with his/her guidance.	3.45	.882	High
7. Works with us to resolve the differences when there are differences in role expectations.	3.47	.946	High
8. Exercises his/her leadership power to help us grow professionally.	3.54	1.014	High
9. Allows us to exercise self-direction if we are committed to the objectives.	3.56	.891	High
10. Ensures our job security	3.69	.854	High

Note: 1.00-1.80= Lowest, 1.81-2.60= Low, 2.61-3.40=Moderate, 3.41-4.20= High, 4.21-5.00= Highest

Table 4.2 portrays with all items rated at high level. Item 2 “Asks for our ideas and input on upcoming plans and projects’ received the highest perception with mean score of 3.94. While item 6 “Allows us to set priorities with his/her guidance” was perceived the least with the mean score of 3.45.

Table 4. 3 Staff's perception on Laissez-faire Leadership style

(n=122)

Statements	\bar{x}	S. D	Perception Level
1. Always prefers voting system whenever a major decision has to be made.	3.80	1.103	High
2. Always seeks the approval of each or majority of us for a major decision to pass in the institute.	3.81	.912	High
3. Sends email, text message, or voice mail to get information out, rarely any meeting is called. We are then expected to act upon the information.	3.80	1.044	High
4. Allows us to determine what needs to be done and how to do it.	3.64	.853	High
5. Allows us to carry out the decisions to do our job.	3.63	.874	High
6. Delegates tasks in order to implement a new procedure or process	3.62	.866	High
7. Responsibility to define our job is left upon us all the time.	3.32	.929	Moderate

8. Shares his/her leadership power with us.	3.52	1.085	High
9. Always leave on us to determine the organization's objectives	3.11	1.003	moderate
10. Knows that we can lead ourselves just as well as he/she can	3.52	.855	High

Note: 1.00-1.80= Lowest, 1.81-2.60= Low, 2.61-3.40=Moderate, 3.41-4.20= High, 4.21-5.00= Highest

As shown in table 4.3, item 2 "Always seeks the approval of each or majority of us for a major decision to pass in the institute." was rated the high among all items with mean score of 3.81. Item 9 "Always leave on us to determine the organization objective" received the least perception with the mean score of 3.11.

Table 4.4 Staff's perception on their institute heads leadership styles (summarized) (n=122)

Leadership Styles	\bar{x}	S. D	Perception level
Autocratic Leadership	3.27	1.03	Moderate
Democratic Leadership	3.66	0.93	High
Laissez-Faire Leadership	3.58	0.95	High

Note: 1.00-1.80= Lowest, 1.81-2.60= Low, 2.61-3.40=Moderate, 3.41-4.20= High, 4.21-5.00= Highest

The result in table 4.4 indicates that the democratic leadership style had the greatest staff's perception level with the mean score of 3.66, followed by laissez - faire leadership style yet at high level with the mean score of 3.58. Autocratic leadership style was perceived the least at moderate level with the mean score of 3.27.

V. DISCUSSION

The analysis of data showed that the heads of public TTIs exhibited Democratic Leadership Styles more than Autocratic and Laissez- faire leadership styles. This is in concurrence to the findings of Hwa (2008), Adeyemi (2010), Honari et al (2011), and Razak et al (2015), who all found that democratic leadership styles were most popular leadership styles practiced by heads of organizations, and most preferred by participants. Honari et al (2011) found that group member under democratic leaders portrays more creativity, cooperation and better performance. Khajeh (2018) found that democratic styles enhance employees' creative and decision-making skills. Dolly and Nonyelum (2018) viewed democratic leaders with positive effect on employee's job satisfaction and performance. Wangmo (2013) associated democratic leaders with better influence on management of organization. She further associated democratic styles with upliftment of staff's trust, commitment, work morale and efficacy. Employees' job satisfaction, improved performance and better management, creativity and decision-making skills, positive influences and belief, cooperation and commitment, and enhanced work morale and efficacy are key factors towards achievement of organizational goals.

In the study the staff's perception level on democratic leadership scored high with mean score of 3.66.

It was closely followed by laissez- faire with mean score of 3.58. The high score on laissez-faire styles was surprising, though not totally unexpected as it resonant the findings of Razak et al (2015) who found out that popularity of democratic leadership styles was closely followed by laissez-faire leadership styles. Some of the respondents in this study were very matured and had number of years of experience working in the institutes. This could have let them take ownership and more responsibilities in their institutes.

On the perception of laissez-faire leadership style, staff members rated very high on seeking the approval of each other or majority of staff for major decisions. Since the heads of TVET institute of this study research sites were new on the job (most of them had 4 years experience as heads of TTIs), they must have had to rely more on technical staff members' expertise while discussing on technical programs.

Autocratic style was perceived at moderate level. Item 3 on the Staff's perception on Autocratic Leadership style "Tells staff what has to be done and how to do it" was rated the highest with mean score of 3.81. Since 38.5% of staff respondents were young and fell in age range of 20-30, and 49.2% had job experience of less than 10 years. They needed close direction and supervision. This has the support of Nsubuga (2008) who determined that authoritative fits well with new recruits, younger and less

experienced staff, where they were needed to be controlled and guided vigorously.

In general, the result confirmed the work of Nebojsa et al (2012), who exposed that heads or the principals of institutes applied all three classical leadership styles based on situations. Vroom and Jago (1988) asserted that there are no single leadership styles that fit all conditions. It is a blunder to adopt lone style in all the circumstances (Khan et al, 2015). It will not be practical to apply democratic leadership style while situation asks for assertive tactic (Nzembe, 2017). Various situations mandate diverse kinds of leadership styles. Leaders ought to perform with requirement of specific circumstances (Veliu et al, 2017). Thus, the aim must be to discover situational styles (Schramm, 2005).

VI. CONCLUSION AND RECOMMENDATION

The findings established that the heads in public TTIs portray all three leadership styles. Democratic leadership style was the most prevalent, and autocratic the least dominant one. Different state of affairs demands different leadership style, and it would be imprudent to apply one style while scenarios call for others. If the team members are unorganized, ill-disciplined, and the circumstances calls for quick decision, autocratic leadership style is more effective. For organized and knowledgeable group, democratic style is preferred one. For matured, well experienced, committed, punctual and dedicated group, laissez-faire is best suited. It is crucial that heads of the institutions are skilled with various leadership styles to cope with all situations and steer organizations harmoniously for better performance.

Therefore, this study recommended combination of all three leadership styles in the TTIs. In-service training for heads of institutes, specifically focusing on courses/programs offered in his/her institute is deemed necessary. It could allow the heads of the TTIs to make better decisions without having to rely much on trade experts.

Researcher recommends future researchers to employ mixed methods for in-depth result to enhance the current study. Studies applying various variables such as, management of institute, staff's performance and job satisfaction among others that might have correlation with leadership styles are suggested. Replicating the same study on heads of the private TTIs in Bhutan could be explored by researchers.

VII. DEFINITION OF THE KEY TERMS

Leadership Style refers to the way leaders behave in influencing group members toward attainment

of organizational goals with healthy work environment.

Autocratic leaders refer to leaders who dictate their decision on their group without their consensus.

Democratic leaders refer to leaders who capitalize the knowledge, skills and talents of their group members with involvement in decision making process.

Laissez - faire leaders refer to leaders who provide utter freedom to their group members leaving decision making process and other tasks to be accomplished on their will.

Public institute refer to government owned technical institutes that provide vocational training to school leavers and unemployed youth.

Head of Institute refers to either principal or training director that leads public institute in Bhutan.

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A situational Analysis of the faculties' Industrial Attachment programme at public Technical Training Institutes (TTIs) in Bhutan

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Abstract— The study was conducted in three Technical Training Institutes (TTIs) in Bhutan. The objective of the study was to investigate the challenges facing industrial attachment as a learning experience for automobile faculties. The population of the study involved all the faculties of TTIs namely Ranjung, Thimphu and Samthang. However, the researcher used a sample size of 64 respondents (purposive sampling) for the study. The data was collected from the respondents through a research-designed survey questionnaire administered through the Online Google Form. Nonetheless, 58 questionnaires were received. The validity and reliability of the instruments were determined by pre-testing the instruments before taking into consideration for analysis. The data collected was analysed using SPSS software. Cronbach-Alpha analysis was used to determine the reliability value of data. And the value of pre-test data was calculated at 0.788.

The findings of the study concluded that the faculties of the three automobile institutes expressed high satisfaction with the program objectives, the usefulness of the program, adequacy of knowledge and skills acquired through the program.

However, the study also concluded that the challenges they faced compromised the quality of engagement and meaningful learning experience. In this context, the researcher recommended that industrial attachment must be planned and implemented as a genuine learning experience right from the start. This could be done by allocating adequate funds to support the faculties' interns and, enable the Technical Vocational Education and Training (TVET) institution to maintain the relevancy of the attachment program and the industry. The immediate attachment supervisors of the industries should also be trained to deliver quality training and education to the faculties during the industrial attachment. This calls for a closer and synergized working relationship between the TVET institutions and the industries so that effective and uncompromised industrial attachment is ensured.

Keywords— challenges, faculty, industrial attachment, knowledge and skills, quality engagement.

I. INTRODUCTION AND THE BACKGROUND

The importance of Vocational Education and Training (VET) was recognized by Royal Government of Bhutan as early as second Five Year Plan (FYP) in the mid of 1960s. It was during the time that the first technical school, the Kharbandi Technical School was established in the country. A decade later, the Royal Government took a step further by restructuring and reviewing the courses of the school and shifting the focus more on the technical and vocational aspect

of it. The nomenclature of the school was changed to Royal Technical Institute (RTI) under then the Ministry of Social Service. Further, the need for a national authority for technical education was conceived during 1974.

However, it was only in May 1999 that the Technical and Vocational Education Section (TVES) was disengaged from the Department of Education under then the Ministry of Health and Education (MoHE) to create the National Technical Training Authority (NTTA) through a Royal

Charter. The NTTA was established to develop a vocational education and training system to produce a skilled and productive workforce for the growing economy of the country.

The NTTA was responsible for the implementation of vocational education and training through the existing training institutions and different training schemes as well as regulating the quality of vocational education and training. In 2003, the functions of NTTA were transferred to the newly established Ministry of Labour and Human Resources (MoLHR). With this, roles and responsibilities of NTTA were bifurcated into two departments, the Department of Occupational Standards (DOS) and the Department of Human Resources (DHR) and later in 2017, it was renamed as Department of Technical Education (DTE). The DOS had the mandate to develop/support quality assurance system and vocational qualification framework and to develop/implement National Accreditation System (NAS) to accredit TVET programs with in the country, whereas DTE was mandated to ensure availability of adequate human resources both in terms of numbers and quality to facilitate sustainable socio-economic development of the country. As such, DTE was entrusted with the responsibility for all aspects concerning TVET and skill development of the country.

While the MoLHR was committed to making TVET as the mainstream choice for school leavers and the youth, TVET in Bhutan encountered with packs of challenges. While there are more than 115 TVET (both public and private) providers in the country (MoLHR, 2020) the programs are limited to few skills areas due to lack of resources and know-how in diverse training areas. TVET also required higher investment and dynamism to match technological changes, industry needs, the rapid globalization of trade and commerce, sustainable development and emergence of the knowledge economy, thus requiring financial sustainability mechanism put in place.

Despite its long transformation, the TVET system is still constrained by the lack of relevancy of skills and training to actual labour market requirements, **limited availability of qualified instructors**, assessors, weak industry-institute linkages and a high unemployment rate of 2.1% (DEHD, 2016).

Although many variables affect the success of TVET programs, it is the nature of the interaction between trainer and trainees that has the greatest impact on the learning. The qualification of skilled workers is a key issue for the competitiveness of economics all over the world, and the quality of TVET trainers are crucial in determining the skills

of future workers. Building the capacity of the TVET trainers is seen as one of the surest strategies to improve quality and delivery of TVET.

As such, the MoLHR since its inception has provided its professional and technical support to all the public and private TVET provides through the implementation of Training of Trainers (TOT) in pedagogy. Besides, the institute management also provided support in capacity development through industrial attachment program with industries to constantly update the technological changes. This initiative of trainers' industrial attachment did not seem to have improved since its implementation in early 2000 with no serious commitment from the stakeholders due to absence of national policy in place. The underline objective of updating knowledge and experience on changing technologies and acquire practical skills remain a distant dream which has a cascading effect on the quality of TVET graduates.

The above important issues have prompted the researcher to evaluate the industrial attachment programme offered by public TVET institutions. This study also aimed to investigate the challenges facing industrial attachment program.

1.1 Statement of the problem

Today's fast-moving, technology-driven world demands hands-on skills for survival in the employment market. Over the years, unemployment has become a major problem for the country and successive governments have not been able to solve it as expected despite putting in mechanisms to curve it. The findings from the tracer study (MoLHR, 2020) reported that the skills mismatch challenge is blamed for the contradictory problems of shortage of national skilled workforce and unemployment among the younger age cohort. It was also reported that many other cross-cutting factors appear to deter, demotivate or obstruct graduates from performing well in the labour market. To achieve this ambition, industrial training programmes for both the faculty and trainees were introduced in the TTIs since 2000.

The purpose of attachment was to acquire practical skills in their occupational areas and to acquaint themselves with how new technologies, machines and equipment they have heard of and read about function. The essence of industrial attachment is to develop the practical competency of the trainer and provide them with the requisite knowledge to contribute their quota towards developing society and meet industrial standards after graduation.

Several concerns were being raised by employers on the TVET institutions failing to produce graduates with relevant skills for employment. This has become a problem worrying

stakeholders including trainees and trainers because on the job training is done in the same industry or organizations. Many faculties on attachment blame on- the -job training environments. Thus, one of the most important features of technical and vocational education and training is its orientation towards the world of work and the inclusion of work-integrated learning (Donkor et al, 2009).

The unmet objectives of the faculty who undergoes industrial attachment program have been extensively expressed by the current trainers although they are sent yearly depending on the availability of budget. It was of their view that current practices of sending them to the attachment for two weeks need thorough scrutiny. They expressed that the learning outcome during attachment was 5% if they are sent to private workshops and 30-40% if attached to government-owned workshops. They also pointed out that most of the time they are left alone without any care and responsibility by the proprietor and quite often, the attachment period is completed in doing irrelevant jobs.

Thus, attempt is being made to undertake a situational analysis on current practices of industrial attachment and recommend few strategies to the relevant agencies for effective industrial attachment for faculties.

1.2 Purpose of the study

The purpose of this study was to investigate whether automobile faculties' industrial attachment provides a meaningful and effective learning experiences to the faculties involved. The study hoped to achieve this by investigating the attainment of attachment objectives, adequacy of the skills gained, the usefulness of the program, challenges faced by the faculties during their industrial attachment and explore some strategies to curb the issues. Further, it was also to investigate the extent to which theory and practice in the curriculum relate.

1.3 Research Objectives

The general objective of this study was to investigate the challenges facing industrial attachment as a learning experience for automobile faculties. To accomplish this, the study was guided by the following specific objectives:

1. To determine the extent to which theory and practice relate as per the curriculum.
2. To identify the challenges faced by faculties while on industrial attachment.
3. To establish the synergy for effectiveness between the Institute and industry supervision during the industrial attachment.

4. To find out whether automobile faculties' industrial attachment provides a meaningful learning experience to the staff involved.
5. Determine strategies for effective implementation of an industrial attachment.

1.4 Research question

The research aimed to answer the following questions:

1. Do the current practices of attachment fulfil the objectives of the program?
2. How do faculties of automobile institutes rate the usefulness of the industrial attachment program?
3. How adequate are the knowledge and the skills acquired during attachment?
4. What are the problems experienced by students during their industrial attachment?
5. How are we going to make this industrial attachment program more effective and efficient? (Strategies)

1.5 Significance of the study

Industrial attachment is a fundamental and additional component of the TVET programmes offered in many technical institutions in Bhutan as a means to enhance capacity development of trainers besides TOT. The findings of this study were therefore expected to be a great use to technical education planners and policymakers by giving them a picture of the challenges faced by the institutes while implementing industrial attachment. The findings of this study would also assist TVET leaders in developing a new and innovative approach to staff industrial attachment involving all the stakeholders. This would call for a strong working relationship among faculties, the industry and the institutions offering the programme.

Apart from adding to the world of knowledge in TVET faculty industrial attachment, this study would also act as a provocation and a springboard from where other researchers can carry out further research in the field of industrial attachment. Although the programme was about three decades old it still has teething problems. There has still several issues to be attended to. Therefore, the need to get feedback from faculty on their perception of these industrial attachments plays a critical role in bringing a paradigm shift in the attachment process.

II. METHODOLOGY

This section contains the methods and procedures that were employed in conducting the study. Here, the researcher gives a description of the Research design, Study variables, Target population, Sampling techniques and Sample size, Study instruments, Data collection techniques, Data analysis, scope of the study and its limitation, Reliability and Validity, and Ethical issues.

2.1 Research Design

The study employed cross-sectional descriptive survey with a researcher-designed questionnaire for data collection to provide answers to the research questions. Since the study sought to assess an on-going program, the survey research method was deemed appropriate. In the view of Osuala (1993), the survey method is appropriate for conducting a study into an on-going process. The choice of the survey method was also informed by the views of Cohen and Manion (1995) who have indicated that the survey approach was useful in comparing conditions of an on-going activity against pre-determined standards. The study tried to answer the questions of what, when, where and how but not on why.

2.2 Research Instrument

Although several instruments for data collection could have been used, the study employed the researcher designed survey questionnaire. Questions, both structured and open-ended were used to collect data from the faculties. The structured questions were used because they were easier to administer, analyse and economical in terms of time and money. Open-ended question included in the questionnaire helped to inspire the respondents to a greater depth of responses about their experiences during industrial attachment. The researcher used online google forms to distribute the survey questionnaire through their email.

2.3 Sample size and location

The target population were faculties of the three institutes that offer automobile course. Due to inconveniences in covering the whole population of the 6 TTIs and 2 Institute of Zorig Chusum (IZCs) and also to ensure credibility of the study, purposive sampling was used to determine number of samples from TTI Ranjung, TTI Thimphu and TTI Samthang. Those were faculties who had gone for industrial attachment during their service time at least for once. Of the 64 respondents from three automobile institutions whom I sent them the survey questionnaire through Google Form, 58 of them have responded the questionnaire achieving the minimum sample size requirement. However, the sample size was determined

by using the formula developed by Krejcie & Morgan (1970) which required minimum of 55 sample size. The equation is:

$$s = X^2 NP (1 - P) \div d^2 (N - 1) + X^2 P (1 - P)$$

s = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level

(3.841).

N = the population size

P = the population proportion (assume to be .50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (.05).

2.4 Method of data analysis

The data collected was edited and fact-checked for any inconsistencies. Pre-coding had already been done for the closed-ended questions by using 5 points Likert scale whereas theme coding for the open-ended questions was done after data collection. The coded data were then analysed thematically using the Statistical Package for Social Sciences (SPSS). Cronbach-Alpha test was used to establish the significance of the relationships between the variables. The confidence level was set at 0.05 (95%) as recommended by Cronbach (1951) for most descriptive researches. Descriptive statistics such as percentages and mean were used to describe the data while tables and pie charts were used to illustrate the results as shown in the following topics.

2.5 Scope of the study

This situational analysis on faculties' industrial attachment programme may not fulfil the needs of every institution as other programmed based study does, but it will be useful to the following stakeholders:

1. Department of Technical Education, MoLHR may use this as feedback on the industrial attachment activity to provide technical and financial support to strengthen the program.
2. Serve as the retrospective evaluation and foundation to developing prospective strategies by TTIs and IZCs on similar activity.
3. The attachment partners (Industries), policymakers and national TVET stakeholders for policy intervention.

2.6 Limitations

The study took into consideration of faculties (teaching and administrative staff) from three automobile trade owing to diverse nature of the courses offered in TTIs and IZCs. Notwithstanding, this study may not merit appropriate representation and generalization but may use the findings of this study by other institutes in exploring answers to the issues they encounter in regards to their attachment system.

While the research design employed in this study has its own advantages, it has also limitations which the design cannot escape. The limitation lies in the sample size, construction of questionnaire items and response rates. Specifically, the purposive sampling method used here was subject to researcher's own interest in determining the samples of the study. This would have impeded the collection of representative data from the population which undermined and compromised the objectivity of study. Moreover, the survey research is prone to researcher error, where assumptions are made about the sample that may not be accurate.

III. LITERATURE REVIEW

This study was based on the Royal Government's TVET policy documents, DTE publications, MoLHR survey reports and other noteworthy international TVET studies. The precedence of the TVET has been introduced and established during as early as Bhutan's Five Year Plans which was started in 1961. Even so, the literature shows that there is a notable absence of deeper research and analysis into the issues and development of the TVET sector in Bhutan. The existing literatures are few and far from relevancy to the current settings. However, they are illuminating for this study.

Though the provided information in the existing literatures are beyond the scope of the study, they were directly or indirectly relevant to the assumptions and interpretation of the results herein. Some of the notable reference documents, as aforementioned, are the Human Resource Development Master plan for economic Sectors, TVET statistics, Tracer Study Report, National HRD Advisory and the TVET Blueprint. Further, in absence of existing literature in the Bhutanese context, the problem of the study was generated from those staff who had been in the system for decades and were victims of frequent transaction in the system.

IV. DATA PRESENTATION AND ANALYSIS

This section deals with data collection and processing in which the Google Form was used to reduce the volume and process into significant information. Patton (1990) said, "the challenges is to make sense out of the massive amount of data, reduce the volume of information, identify significant patterns and construct a framework for communicating the essence of what the data reveal" (p.272). This section covered the biographical information of the participants such as gender, qualification, status and the number of years in the service.

4.1 Gender

Table 1 reveals the demographic information of respondents in which majority were (67.2%) male and the remaining 32.8% were female. This indicated that male gender dominates the faculties in TVET institutions. Correspondingly, a similar trend was also reported in a TVET Statistic of Bhutan (2020) that over 70% of 185 TVET regular staff were males, indicating the requirement for policy intervention to increase the number of female trainers to promote gender equity.

Table 1: Personal Information - Gender

Personal information – gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	39	67.2	67.2	67.2
Female	19	32.8	32.8	100.0
Total	58	100.0	100.0	

4.2 Employment status

The employment status of the participants as well-indicated that most of the respondents (82.8%) were trainers while the

minority of 10.3 % and 6.9% were management and administrative staff, respectively, that composites the faculties in the institute, as shown in table 2.

Table 2: Personal Information – Employment Status

Personal information – Employment Status		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Trainer	48	82.8	82.8	82.8
	Management	6	10.3	10.3	93.1
	Others	4	6.9	6.9	100.0
	Total	58	100.0	100.0	

4.3. Qualification

As presented in table 3, the data shows that 60.3% of the participants possessed diploma – the minimum qualification required to teach NC level as per the Bhutan Vocational Qualification Framework (BVQF) and less than 19% had

bachelor's degree. The 5.2% with a master degree were those in the management category as reported in A TVET Statistics of Bhutan, 2020. A similar stance was reported that out of 185 TVET trainers recorded in 2019, 66.5% of them were with diplomas and 24.3% had a bachelor's degree.

Table 3: Personal Information - Qualification

Personal information – qualification		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Master	3	5.2	5.2	5.2
	Degree	11	19.0	19.0	24.1
	Diploma	35	60.3	60.3	84.5
	certificate	9	15.5	15.5	100.0
	Total	58	100.0	100.0	

4.4 No. of years in the service

The table below (Table 4) revealed an experience of staff either in TVET or in the civil service in which 43.1% fall within 0-5 years in the service, 8.6% in 6-10, 25.9% in 11-15 and 22.4% fell within 16 years above. It is of the view that more the number of years in the service more experienced he

or she become with corresponding frequency of industrial attachment opportunity availed. We can infer that lesser the number of years in the service, lesser experienced a staff is in delivery of the program which reaffirmed that the experience gained is directly proportional to the number of industrial attachments programme availed by a staff.

Table 4: Personal Information – No. of years in the service

Personal information- No. of years in service		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5 years	25	43.1	43.1	43.1
	6-10 years	5	8.6	8.6	51.7
	11-15 years	15	25.9	25.9	77.6
	16 and above	13	22.4	22.4	100.0
	Total	58	100.0	100.0	

4.5 Questions analysis

The five points Likert Scale was considered with an interval scale of 1 to 1.8 strongly disagree, 1.81 to 2.60 disagree, 2.61 to 3.40 neutral, 2.41 to 4.20 agree and 4.21 to 5 strongly agree.

The resultant mean rating for each item was also computed. Thereafter, the computed mean ratings were compared with the theoretical mean rating (assuming a normal distribution of responses) of 2.50 to determine the attainment of the aspect of the program objective, the usefulness of the program, adequacy of skills acquired, organizational issues, challenges of the program and the strategies for improvement aspect of the program depicted by the questionnaire item.

A similar value had been considered for the other sections. As such the research findings are presented into six sections according to the six research questions posed above.

4.5.1 Research Question *Do the current practices of attachment fulfil the objectives of the program?*

The mean rating of each items in a section and the corresponding resultant mean rating was computed. The computed means were then compared with the theoretical mean rating (assuming a normal distribution of responses) of 2.50 to determine whether the objectives had been achieved or not. All the six items relating to the attainment of the program objectives had mean ratings and resultant mean ratings that far exceeded the theoretical mean (Table 5).

As indicated in table 5, the program objective of developing a positive attitude towards work had the highest resultant mean rating of 4.28. The lowest resultant mean rating of 3.78 was for the faculty to apply and sharpen old manipulative skills already acquired in their area of study. The results of the study suggest faculties of the automobile institution rated highly elements of the program objectives indicating satisfactory attainment of the program objectives. Thus, all three

stakeholders felt that the program had achieved its set objectives. The findings are similar to those of Aleisa and Alabdulahfez (2002) who found that the cooperative education (attachment program) at Riyadh College of Technology had achieved its aims. In the present study, the objective nurture linkages with industry for trainee's industrial attachment programme (ATP) appears to have been attained. Similarly, Aleisa et al (2002) reported that the program at Riyadh College of Technology-enabled students to acquire a positive attitude towards work. They also found that the program provided students with the needed workplace skills similar to the findings of the present study.

The reported attainment of the objective of acquiring new manipulative practical skills during the industrial attachment was in agreement with the observation of Ryan and Imel (1996) that industrial attachment was one of the useful methods of imparting knowledge to students. This finding could be attributed to the fact that the attachment program afforded faculty the unique opportunity to engage in practical work of six hours a day on a five-day week basis on some specialized equipment and machinery which are not available in their institute's workshops. The above findings compared favorably with the finding of the present study that industrial attachment enabled faculty on attachment to apply and sharpen old manipulative skills already acquired in their areas of study. The objective of getting faculty acquainted with how new technologies, machines and equipment function also appears to have been attained. Schools and individuals find it very difficult to get specialized equipment to run quality education programs (Finch et al., 1999). It is in this light that the attainment of the objective of getting automobile faculties acquainted with new technologies is very refreshing.

The finding that faculties had an opportunity to apply theories and principles learnt in their areas of study is supported by Matamande & et al (2012), Further, in the evaluation of a

cooperative education program for science students at Southern Cross University, Cullen (2005) established that students were able to use skills learned or acquired from their study, similar to the present findings. Furco (1996) also

observed that industrial attachment provides "learning opportunities beyond the classroom walls" (p. 9) and that it enables students to see, feel and work with tools and machines to give practical meaning to what they have learnt in theory.

Table 5: Attainment of programme objectives

Descriptive statistics					
Statement	N	Minimum	Maximum	Mean	Std. Deviation
1. Acquisition of new manipulative practical skills during the industrial attachment period.	58	1	5	3.93	.792
2. Nurture linkages with industry for trainee's industrial attachment (ATP).	58	2	5	4.19	.661
3. The program enables faculty to apply and sharpen old manipulative skills already acquired in their area of study.	58	0	5	3.78	.859
4. Acquaintance of how new technologies, machine and equipment heard of and read about in curriculum function.	58	2	5	3.83	.729
5. Acquire interpersonal skills that promote personal growth and development.	58	0	5	3.97	.973
6. Develop positive attitude towards work.	58	3	5	4.28	.615
Valid N (list wise)	58				

4.5.2 Question: How do the faculties of automobile institutes rate the usefulness of the industrial attachment program?

The results which appeared in Table 6 indicated that all the six items relating to the usefulness of the program had mean ratings that far exceeded the theoretical mean. As indicated in Table 9, the 'opportunity to interact and share experiences and problems with industry staff' had the highest resultant mean rating of 4.12. The lowest resultant mean rating of 3.19 related to the 'attachment is a sort of break with financial incentives for staff'. The results of the study thus showed that faculties rated highly elements of the usefulness of the program.

The results of the study are consistent with the findings of Bailey and Merritt (1997) who reported that industrial

attachment increases the learning power of students by enabling them to get job experiences and reinforce academic instruction through the use of applied learning opportunities. The finding that students had the opportunity to apply theories and principles learnt in their areas of study is supported by Cullen (2005).

Further, the result of the study also supports the findings of Cort & et al., (2004) that industrial attachments allow trainees/faculties to update their skills and knowledge in their trades, exposes them to new methods and materials, gives them a realistic and holistic impression of their trades and brings elements of realism into their training.

Table 6: Usefulness of the Industrial attachment

Descriptive statistics					
Statement	N	Minimum	Maximum	Mean	Std. Deviation
1. Opportunity to apply theories and principles learnt in one's area of study at the institute	58	2	5	4.02	.577
2. Opportunity to understand many things learnt in abstract in one's area of study at the institute	58	0	5	3.97	.700
3. Opportunity to interact and share experiences and problems with industry staff.	58	2	5	4.12	.727

4. Opportunity to know the contribution of industry to national development.	58	2	5	3.90	.693
5. Obtain new learning experience related to trade and beyond.	58	2	5	4.09	.571
6. Attachment is a sort of break with financial incentives for staff.	58	0	5	3.19	1.162
Valid N (list wise)	58				

4.5.3 Question: *How adequate is the knowledge and the skills acquired during an attachment?*

The results which appeared in table 7 indicated that all the items concerning the adequacy of the knowledge and skills acquired during an attachment exceeded the normal distribution mean (2.50) agreeing all the statements.

As indicated in Table 7, 'the current practices of attachment modality should be continued' had the highest rating of 3.84 and the lowest rating of 2.93 was against the two weeks' attachment program is adequate. Although, the mean rating for the adequacy of two weeks' attachment was slightly higher than the normal distribution indicating that the period for the attachment was not adequate for many of the faculty members. The duration of the attachment for faculties differs from institute to institute ranging from two to three weeks depending upon the availability of budget and the time of individual faculty. Considering the above challenges, most of the faculties were sent on attachment for two weeks which they found very short as reflected in the table.

The duration of attachment being very less was supported by open-ended question responses asked in the questionnaire. Most of the respondents suggested that the duration of the attachment may increase to three to four weeks instead of two to acquire more skills in related trade. The winter and summer vacations could be the option for meaningful attachment. To strengthen this program in TTIs and IZCs this study revealed that there should be HRD master plan which covers duration for IAP, Institute – Industry roles and monitoring and evaluation. The absence of such a policy undermines the institute level professional development activity such as industrial attachment as there are no standard norms. A similar finding was also reflected in TVET Blueprint (2016) which acknowledged that a HRD master plan for the TVET sector will be developed to determine initial training of instructors entering the profession, and professional development to those already in the profession.

Table 7: Adequacy of the knowledge and skills acquired

Descriptive statistics					
Statement	N	Minimum	Maximum	Mean	Std. Deviation
E.1: Workplace supervisors are the right people to assess faculty on the attachment program	58	1	5	3.78	.773
E.2: The competencies on which faculty on attachment are assessed on the program are appropriate.	58	2	5	3.62	.721
E.3: The two weeks' attachment program is adequate.	58	1	5	2.93	1.183
E.4: There is adequate monitoring by the management during attachment.	58	0	5	3.22	1.140
E.5: The current practices of attachment modality should be continued.	58	1	5	3.84	.988
E.6: The management addressed the issue during attachment instantly.	58	2	5	3.59	.750
E.7: The management provide equal opportunities irrespective of the trades and position.	58	1	5	3.81	.868
Valid N (list wise)	58				

4.5.4 Question: What challenges do faculty face during industrial attachment?

The industrial attachment programme with its benefits highlighted above had also challenges which cannot be left out for effective assessment concerning the area under study. Thus, the mean rating of each of the six items that answered the challenges of industrial attachment and the corresponding resultant mean rating was computed. The computed means were then compared with the theoretical mean rating (assuming a normal distribution of responses) of 2.50 to determine the challenges of the program. The results which appeared in table 8 indicated that all the six items relating to the challenges about the program had mean ratings that far exceeded the theoretical mean. As indicated in Table 8, 'attachments were made to relevant industries and workshops' had the highest resultant mean rating of 3.90. The results of the study thus showed that faculties rated highly elements of the challenges of the program listed in the table.

The mean rating of the statement 'faculty on attachment do not have free access to machines and equipment' was 3.34 rated highly on agreement indicated that faculties on attachment

were not given free access to new equipment to work on. The issue of faculties not having free access to machines and equipment to work with justifies the assertion of Olugbenga (2009), who argued that for effective training to take place and to create skills that were relevant to the future during industrial attachment, institutions of training must update technology. However, the TTIs lacked this and with the technological environment changing constantly making it difficult for institutions of higher learning to keep abreast with the changes. This was further supported by the findings of MoLHR (2020) that graduates had rated the quality of training tools and equipment need some improvement. However, the shortage of fund to update tools and equipment in consonance with changing technology had remained a major challenge.

It also revealed by the data that technicians and the supervisors of the workshops/industries were suspicious of the knowledge and skills of our staff making them do work not related to their field of study. A similar case was also reported in African countries that students end up doing menial jobs and never do the essentials of the job as indicated by Dodge and McKeough (2003).

Table 8: Challenges of the Attachment Programme

Descriptive statistics					
Statement	N	Minimum	Maximum	Mean	Std. Deviation
F.1: Faculty on attachment do not have free access to machines and equipment to work with.	58	1	5	3.34	.965
F.2: Faculty on attachment spends a lot of time in finding attachment placement.	58	0	5	3.00	1.076
F.3: Firms/industries are suspicious of the faculty's prior knowledge.	58	0	5	3.10	1.021
F.4: Faculty are exposed to appropriate skills, task and jobs relating to their profession during attachment.	58	1	5	3.78	.773
F.5: Attachments were made to relevant industries and workshops.	58	0	5	3.90	.986
F.6: Lack of financial support affects the program implementation.	58	0	5	3.53	1.112
Valid N (list wise)	58				

4.5.5 Question: How are we going to make this industrial attachment program more effective and efficient? (Strategies)

Findings from table 9 disclosed that the faculties agreed with all the eight strategies that were proposed to improve the effectiveness of the industrial attachment programme with the

highest mean rating of 4.19 and the lowest rating of 3.71. Creation of strong linkages with industries is also viewed as a key strategy. Meyer (2008) viewed lack of linkages resulting in individual approaches leading to a lack of adequate funding, knowledge and basic resources for IAP

enhancement. Creation of strong linkages will promote the participation of faculties, institutions, host organisations and other stakeholders in a more meaningful and relevant manner. This helps to develop a sense of belonging for a common purpose in managing the IAP for automobile institutions in Bhutan.

Meanwhile, the results also indicated that there should be early supervision from the management while workplace supervisors were encouraged to make the supervision constantly to achieve the objectives as supported by Baechle and Earle (2008) who argued that effective attachment will only be achieved if there is systemic and constant monitoring of the program from all the stakeholders. Frequent supervision visits to faculty on attachment by the training institutions were indicated to improve the industrial attachment programme in many countries. This indicated that they are part and parcel in getting instant feedback (Donkor et al., 2009).

Likewise, industrial attachment is an indispensable component of developing faculties' competences in their areas

of specialization and the process can only achieve desired results if they were placed under the supervision of experienced and seasoned personnel (Arikewuyo, 1999). The data also indicated the need for trained and competent mentors and assessors with a mean rating of 3.83. Training of counterpart (mentors) will allow identification of improvements needed and feedback to the system. Mentors and assessors, therefore, need training and support in how to use assessment tools and mentoring strategies to promote meaningful learning through industrial attachment. This will leave each part benefiting accordingly in the system, mentors receiving the respect they deserve commanded by their effectiveness in executing their mentorship role.

From the responses in Table 9, one could therefore conclude that if the stated strategies are vigorously pursued, there is no doubt that the industrial training programme would be effective and produce the expected faculties who may be capable of theorizing practice and putting theory into practice to develop expert knowledge.

Table 9: Strategies for improvement

Descriptive statistics					
Statement	N	Minimum	Maximum	Mean	Std. Deviation
G.1: Improve the linkages between institute and industries	58	3	5	4.19	.606
G.2: There should be an early follow-up so that supervisor can make their input.	58	2	5	4.07	.617
G.3: Frequent supervision from workplace supervisors should be introduced.	58	1	5	3.71	.955
G.4: Feedback from the industries/firms should be discussed with faculty.	58	2	5	4.16	.616
G.5: There should be post attachment seminar for faculty and supervisors.	58	1	5	3.86	.888
G.6: Workplace supervisors should be trained on how to assess faculty on attachment.	58	2	5	3.83	.798
G.7: There should be a workshop for all stakeholders involved in the programme to reach a common consensus.	58	2	5	3.71	.726
G.8: A robust monitoring mechanism should be instituted by both the parties.	58	0	5	3.71	.937
Valid N (listwise)	58				

V. CONCLUSION AND RECOMMENDATION

The paper aimed to establish whether the industrial attachment programme offered by three automobile institutes to their faculty was helpful in their professional development. The questionnaires were used to determine the fulfilment of the program objectives, adequacy of knowledge and skills

gained, the usefulness of the program, challenges faced by the faculties and the strategies for improvement. The study also attempted to establish the general feelings of faculties about the attachment and also the researcher sought to get more insight into the attachment by getting feedback through

recommendations from respondents which was also the part of the questionnaire.

The industrial attachment was viewed as an important strategy to expose faculties to real work life and to equip them with the necessary skills so that they would not only lead to being a better TVET trainer, but also who can ensure a quality TVET in Bhutan. Based on the findings of the study it can be concluded that TTIs faculties were allowed to relate theory into practice to prepare their student trainees for success in further education and the workplace. Studies on industrial attachment in a Bhutanese TVET setting were not much reported. The present study thus adds a different dimension to the literature on work-integrated learning.

From the findings of the study, it could be concluded that the faculties of the three automobile institutes expressed high satisfaction on the attainment of program objectives and the usefulness of the program. The attained objectives include acquisition of new manipulative practical skills, nurtures linkages with industry, getting students acquainted with technologies new to them and develop a positive attitude towards work. The program's usefulness lies in the opportunity to apply theory learnt into practices, opportunity to interact and share experiences and problems with industry staff and obtain new learning experience of the trade and beyond.

The study also concluded that the industrial attachment program (IAP) for faculty had expressed high satisfaction on the adequacy of knowledge and skills during the program. However, the mean rating for the duration of attachment was the lowest with 2.93 although slightly above the resultant mean indicating the duration is too short to get the required skills. The responses in the open-ended question to provide suggestion also had comments on the extension of duration program from three to four weeks.

The IAP had been seen to have some challenges experienced by faculties despite the above advantages and these had to be addressed for its successful implementation. For effective and efficient management of the IAP, strategies for improving the programme were also highlighted where the governing agencies have to come up with clear policies, trained mentors and assessors, monitoring and evaluation systems, timing and time frame for the IAP. The study, therefore, recommends the following:

1. Need to develop a HRD master plan for trainer's professional development by the governing agency.

2. The follow-up (supervision) must be done early so that supervisors can make suggestions to the management early.
3. Increased duration of attachment program to four weeks
4. Strengthen industry – institution linkages with the training of mentor by the host organization
5. Send faculty to relevant industries especially to the dealers for the attachment programme.
6. Ministry to provide adequate budget for the successful implementation of the programme.
7. With TVET gaining momentum in the terms of employment and linkage creation, such programmes may need further up-gradation.

However, further studies on the role of industries have to be done for stronger linkages and wholesome training and meaningful assessment.

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Safety practices in the Chemistry Laboratories of higher secondary schools of Samtse District: A case Study in Bhutan

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Abstract— Teaching and learning of chemistry involves scientific tests and experiments that take place in laboratories. It involves using hazardous chemicals and equipment posing risks and health hazards to the users. Hence, the users should be thoroughly versed with laboratory safety practices. Therefore, an attempt to understand the safety practices in chemistry laboratories in schools have been examined in this study.

The data were collected administering a mixed method. Both descriptive and inferential statistical tools were used to analyse quantitative data while qualitative data were analysed thematically. Congruency of the eight predetermined themes was established by triangulating the quantitative and qualitative data using Statistical Package for Social Sciences version 21.

The results indicated that the schools had good safety practices with adequate laboratory facilities and safety skills. The schools were also aware of emergency planning and chemical storage and labeling. However, schools lacked properly trained safety practitioners. It was also observed that chemicals and waste materials were disposed of without treatment. Further, it was also observed that there were shortages of safety gloves and goggles fume hood and pipette fillers.

The study recommends school administrators, chemistry teachers, and laboratory assistants to procure unavailable items required for the safe conduct of chemistry laboratory activities. The study further recommends the Ministry of Education (MoE) to provide training to chemistry teachers and laboratory assistants on the safe handling of hazardous materials and on first aid techniques to address accidents.

Keywords— Chemistry Laboratory, Safety Practices, Samtse Bhutan.

I. INTRODUCTION

The laboratory work is considered very important to promote students' learning of science and scientific inquiry. The teaching of chemistry through laboratory work can help increase students' interest in chemistry. In Bhutan, the science curriculum has given due importance to laboratory works in teaching chemistry. However, there are many hazardous chemicals and equipment in the chemistry laboratories in schools. The chemicals and equipment possess a significant risk of accidents, a threat to human health, and the natural environment. The situation literally demands conscientious care in order to protect human health, conserve the natural environment

and to prevent laboratory accidents. Measures to prevent accidents, conserve the natural environment, and protect human health include safety training and enforcement of safety guidelines, use of PPE (PPE), and disposal of the hazardous chemical waste properly. Therefore, it was a sign of exigency to understand the current state of laboratory safety in the chemistry laboratories of higher secondary schools.

1.1 Background

The schools must foster a healthy, safe, and supportive learning environment such as conducive physical and psychological ambiance in order to achieve quality

education [21]. This holistic approach in learning will develop healthy, skilled and productive members of society in the future. According to Bhutan Education Blueprint 2014-2024 [21], the schools have to ensure that children and school personnel are protected from risks and injuries. Moreover, one of the components of the healthy school environment is to prevent children from chemical threats such as air pollution, water pollution, and hazardous waste.

If there is lack of safety, it may result in accidents where students and teachers are exposed to hazardous chemicals and equipment [32]. For instance, the University of California at Los Angeles quickly transformed its laboratory safety program after the incident of a chemical accident in December 2008 that took the life of a student researcher [11]. Likewise, [17] concluded that academic laboratories are unsafe places for work after analysing 94 laboratory incidents identified by Chemical Safety and Hazard Investigation Board (CSB) and other incidents published in the media. The number of accidents and the state of safety practices in the chemistry laboratories of schools in Bhutan is still unknown due to very limited research in this area. The only study by [36] investigated laboratory safety in one of the middle secondary schools in western Bhutan based on students' ability to recognize common hazard symbols. The study stated that the students could hardly recognize the common laboratory hazard symbols. It is then apparent that there should be more research on laboratory safety practices in schools of Bhutan.

In Nepal, a study concluded that there was improper disposal of chemical waste and the lack of monitoring the laboratory safety [16]. Likewise, Li [as cited[14]] stated that the liquid waste from all levels of school laboratories in Taiwan was around 1,691,100 liters in the year 2000 consisting of harmful wastes such as heavy metal liquid, organic liquid, acid and alkaline liquid waste. If appropriate control measures are not taken, such liquid waste can severely impact the environment and affect human health [14]. In Bhutan, protecting our pristine environment from such damaging materials and the welfare of human health cannot be compromised at any cost. Therefore, the proper safety measures and safe work practices in the chemistry laboratories are to minimize the risk of accidents, impact on the environment and human health. Among many, the adoption of safety rules in the laboratories is one of the ways to prevent accidents [31]. However, these skills and knowledge alone cannot assure laboratory safety.

Facilities such as proper ventilation, availability of water, PPE, fume hood, pipette filler, and first aids boxes are necessary. Supposedly, the absence of fume hood,

ventilation, and pipette filler will expose students to hazardous chemicals affecting their health over a long period. Inhaling of substances such as acids, ammonia and sulphur dioxide may directly injure the pulmonary epithelium at various levels of the respiratory tract, leading to a wide range of disorders from tracheitis and bronchiolitis to pulmonary edema [12]. Therefore, understanding the current state of safety practices in the chemistry laboratory is timely to make recommendations to prevent accidents, health risk, and protect our environment. The chemistry laboratories are highly unsafe to work due to the use of hazardous chemicals. It makes human health vulnerable and prone to the occurrence of chemical accidents. Therefore, safe practices and necessary precautions are prerequisites.

1.2 Statement of the Problem

The study of chemistry beginning from class IX has been one of the impeccable practices in the Bhutanese education curriculum. Further, understanding chemistry through laboratory work is more effective. The education system encouraged inquiry-based learning (learning through practical work) by building infrastructure, recruiting laboratory assistants, and furnishing the laboratories with equipment and chemicals. At present, there are 103 schools with chemistry laboratory facilities in Bhutan, out of which 48 are in higher secondary schools [22]. Moreover, in classes IX-XII, a minimum of 15 chemistry practical works are instituted as a part of the curriculum and assessed as an important component of Continuous Assessment (CA) for classes IX-XI. Bhutan Council for Examination and Assessment assesses the practical works for class XII externally [30]. Hence, the use of chemistry laboratories in schools is extensive and safety is a major concern.

The practical work in teaching and learning chemistry is recommended as it helps students to acquire hands-on skills, develop their understanding of chemistry and to apply in practical life. However, conducting practical work in the chemistry laboratory is a major concern in schools due to lack of proper safety practices. Chemicals such as acids, alkalis, carcinogens, and heavy metals have been another concern due to their harmful effect on human health and the environment. Still, the use of such chemicals is unavoidable and accidents are unpredictable. Therefore, it is imperative to take the necessary precautions to minimize risks and hazards. The studies in other countries found deficiencies in safety practices, safety facilities, and proper hazardous waste management in chemistry laboratories ([2]; [16];[23]). However, there is only one study carried out in Bhutan to investigate laboratory safety limited to students' ability to recognize the common hazardous symbols. The study revealed that

most of the middle secondary school students in one of the schools of western Bhutan were unable to distinguish the common laboratory hazard symbols. This means students were either complacent to learn or vulnerably unaware of the potential chemical hazards that might cause risk to their lives [36]. Such research carried out to update and find out the ways to improve safety measures to support the practical approach of chemistry education at school level inspired the researcher to explore more. The findings of this study conducted intend to inform and support the REC, MoE, National Environment Commission (NEC), policymakers, government, and educators to ensure and improve safety in the school chemistry laboratories. It is savouring to have adequate safety equipment and other laboratory facilities. Apart from this, well-trained laboratory assistants and teachers to operate safety equipment adequately remain an ideal objective to ensure the safety of the students in the chemistry laboratories. It literally means that the chemistry laboratories in schools should be furnished with adequate safe facilities with competent laboratory assistants and chemistry teachers to facilitate practical works safely.

The safety of the students and teachers is important while handling chemicals and equipment. Numerous literature claims that safety practices in academic chemistry laboratories are lacking. However, those findings were confined to a context other than Bhutan. Since safety practices in the chemistry laboratories of other countries cannot be generalized to Bhutanese context, the mixed method study was carried out to study the current state of safety practices in the chemistry laboratories of higher secondary schools of Samtse Dzongkhag. Under the topic, the study endeavored to find out the current state of safety practices based on the theme; PPE, safety facilities and equipment, general safety practice (GSP), safety knowledge and skills, Hazardous Waste Management (HWM), Emergency Planning (EP), chemical storage and labeling, and finally training and policy.

1.3 Significance of the Study

The finding of the research carried out for the current state of safety practices in the chemistry laboratories of higher secondary schools is a preliminary study in Bhutan that adds new knowledge. It can also be the baseline data for future researchers.

The study also aims to support the schools, REC, and educators to plan and improve safety practices in the chemistry laboratories.

As of now, hazardous chemical waste from the chemistry laboratories is disposed of without any treatment. However, time will come when it shows impact. Therefore, before getting late, the findings on the

hazardous waste management practices will be a timely eye-opener to NEC, government and other responsible stakeholders. It will not only reduce human health hazards but also save our pristine environment.

It will also help to train and create awareness on laboratory safety practices to the chemistry teachers, laboratory assistants, and students.

II. LITERATURE REVIEW

In schools, the chemistry laboratories are susceptible to accidents and safety measures are highly recommended. It is always important to create a culture of safety in the science classroom from the first meeting of the class [4]. However, [16] stated that safety is often neglected in developing countries like Nepal. Further, [19] also stated that laboratories in the academic setting are hardly inspected due to limited professional and laboratory resources [19]. University laboratories are assumed to be a safe place due to the small amount of chemicals used. Therefore, due to less attention, they possess potential risks ([2]. “The National Safety Council has estimated that 5000 safety-related accidents occur in American schools each year; at least ten percent of these are science classroom related” [Stroud as cited in [9], p.149]. Likewise, the study in Nepal indicated 47 percent of the respondents in their study had experienced accidents in the laboratories, mostly due to improper use of acid leading to damaging skin and cloth [16].

According to [16], to reduce the risks of accidents and injuries, the Chemical Hygiene Plan (CHP) should be followed while working in the laboratory. Similarly, [4] guidelines state that every school must have CHP to help protect people while working in laboratories. Similarly, [1] stated that the development of departmental CHP is compulsory to protect laboratory workers from chemical exposure. A proper CHP comprises numerous safety measures such as proper storage of chemicals, safe and proper operation of chemicals and equipment, proper design of experiments and appropriate chemical waste management system [16]. Likewise, [31] suggested preventing laboratory accidents by creating safety awareness in students and making them behave safely.

2.1 Requirement of Safety Measures in Chemistry Laboratory

The primary objective of establishing a science laboratory in school is to transform theoretical information into the concrete hands-on experience [36]. [15] stated that practical work has a significant effect on students' achievement. In contrast, findings by [3] showed that laboratory anxiety can happen during the use of chemicals

and working with laboratory equipment which can lead to accidents or affect students' performances. Therefore, safety practices in the chemistry laboratories are not only to safeguard an individual from the risk of accidents and health hazards but also to ensure effective teaching and learning.

According to [5], the chemicals used in the chemistry laboratories may have health and environmental dangers due to properties such as combustible, flammable, caustic, and toxic. However, Warhurs (as cited in [6] states it is wrong to conclude that chemicals in the laboratory are all hazardous; they too have benefits if they are properly used. However, the findings in Ibadan, Nigeria indicated that the science students were aware of the hazards and the laboratory safety practices but their knowledge was not translated to safe practices. Similarly, a study carried out by [32] reported that the key challenge in the laboratory work is the students' safety behaviour because students taste chemicals, use chemicals more than instructed, and they intentionally expose themselves to each other. Therefore, safety measures are vital in the chemistry laboratory.

2.2 Personal Protective Equipment (PPE)

PPE has been considered very important in various working environments for protection. In the chemistry laboratories, the students and teachers must wear an appropriate PPE and clothing. The basic PPE requirement that needs to be equipped while working in laboratories is safety goggles, laboratory coats, and hand gloves. It must be worn all the time when working in the laboratory ([8]; [31]. A study carried out in Nepal found only 57 percent of the participants used gloves while handling chemicals [16], 2017). Similarly, the investigative study in Saudi University found that the number of hand gloves in the laboratory were below average [2]. According to [31], the protective safety goggles must be worn in all circumstances - while heating chemicals, handling corrosives such as acids, alkalis, formalin, and chloroform. Failure to do so shall be regarded as negligence. In contrast, a case study in Pahang, Malaysia found that schools were not preparing enough safety goggles for students when conducting experiments in the laboratories [18]. That being said, there are ways to improve the use of PPE. For instance, unannounced PPE inspections helped to vigorously improve the use of PPE within one year in the University of California at Los Angeles [11].

2.3 Laboratory Facilities and Equipment

The facilities in the chemistry laboratory such as water, soap, glass disposal box and safety manual have been basic requirements. [24] stated that the hand washing with soap must be followed immediately after the laboratory work.

Besides hand washing, disposal bins for chemicals residue are one of the most important laboratory requirements. The study conducted in West Virginia high schools found only 66 percent of the science laboratories have some form of glass disposal boxes available [29]. However, guidelines in [31] and [8] states that separate disposal bins, particularly for broken glasses, must be used. The provisions for the ventilation system of the chemistry laboratory include windows, exhaust fans, and fume hoods. According to [13], any discernible chemical smell felt in the chemistry laboratory is an indication of the substance in the gaseous phase and not safe to breathe. The fume hood is an integral part of chemistry laboratory ventilation as the primary safety measure, which prevents laboratory workers from exposure to harmful and hazardous fumes and vapour [1]. The fume hood protects us from exposure and keeps chemical aerosols, vapours, fumes, particulates, and odours under control. However, the study in junior secondary school laboratories in Gaborone has shown that 80 percent of the fume-hoods were non-functional [23]. Similarly, a study carried out in Nepal found only 26 percent of the high school laboratories were possessing fume hood [16]. Therefore, the above studies indicated the lack of fume hoods in the chemistry laboratories. Another, safe equipment to pipette out chemicals is to use aspirator or pipette filler but mouth pipetting should be avoided [8]; [24]; [31]). Further studies to investigate the availability and the use of above mentioned safety facilities and equipment in the school chemistry laboratories is necessary.

2.4 General Safety Practices (GSP)

The basic safety practices are equally important to protect oneself from the hazards in the chemistry laboratories. [4] guidelines suggested creating a culture of safety from the first meeting of the class by setting and explaining the appropriate safety rules of the laboratory to the students. The study conducted in Swedish middle and high school reported that all the teachers check the safety knowledge of the students before starting the practical work [32]. While, the findings in Pahang, Malaysia found that only 55.9 percent of the teachers had explained science laboratory safety rules in the beginning of the school session [18].

The four principles of safety by [13] is RAMP (Recognize, Assess, Minimize, and Prepare). The American Chemical Society developed guidelines for chemical laboratory safety for secondary schools using RAMP principle [4]. Under the RAMP concept, in order to minimize risk during the experiment, a teacher should supervise the students closely and carefully in the chemistry laboratory all the time. In agreement to RAMP principle, the study in junior

secondary school laboratories in Gaborone revealed that practical classes were well supervised by the teachers [23].

There is also other important housekeeping to be followed in the chemistry laboratories. Students should not be allowed to eat or drink anything inside the chemistry laboratory ([4]; [8]; [31]). Another important practice is to ensure that benches must be cleaned before and after the laboratory works ([8]; [31]). According to [4], while handling chemicals and equipment, the long hair should be tied properly. Similarly, [31] states that long hairs are the main cause of fire accidents.

2.5 Safety Knowledge and Skills

The students, teachers, and laboratory assistants must have basic safety skills and knowledge, which will ensure to avoid accidents and injuries in the chemistry laboratories. Some of the basic safety skills and knowledge such as, when heating substances, the mouth of the test tube should be pointed away from friends or self ([4]; [8]; [31]) and when acid and water are mixed, acid should always be added to water [31]. Devoid of such basic knowledge and skills will result in accidents and inhalation of chemicals that affect human health. In the chemistry laboratories, working fire extinguishers should be in place and there must be competent personnel to operate during fire disasters. [4] states, "teachers who are authorized to use a fire extinguisher must be trained on its proper use".

According to [8], safety symbols are informative and must be displayed on walls and doors. Similarly, [31] recommended that safety signs are very informative to reduce laboratory accidents. Further, Su and Hsu [as cited in [6]] suggested that the accidents related to chemicals mostly occur due to lack of the precautionary symbols on the chemicals. Therefore, it should be mandatory for the students to know common laboratory hazard signs and symbols given in their practical manual. However, the study by [6] indicated that the majority of Thai undergraduate students misunderstood the meaning of safety signs.

2.6 Emergency Planning (EP)

The cases of emergencies in the chemistry laboratories are unpredictable and the schools should have an emergency action plan to combat in a safer approach. The study conducted in Saudi University concluded that the schools had unsatisfactory emergency planning and lacked emergency equipment such as showers, eyewash, and fire detector except fire extinguisher [1]. A similar survey conducted in 120 public high schools within Virginia indicated lack of safety showers and chemical spill kits [29]. In contrast, the study in Ten Swedish Schools indicated the availability of regularly checked safety equipment such as safety showers, emergency first aid kit,

and eyewash [32]. According to [31], the first aid should be always there in the laboratories in case of an emergency to make the patient feel secure, comfortable and to prevent deterioration of the patient's condition. Therefore, the chemistry laboratories must be well equipped with first aid kits, fire blankets, wash bottles with clean water, fire extinguisher, the evacuation routes, exit signs displayed on the exit doors, and emergency exits doors.

2.7 Chemical Storage and Labelling

Lack of proper knowledge about the labeling of chemicals will lead to an accident. Chemical labeling is very important in identifying the nature of the chemical and storing incompatible chemicals separately. These incompatible chemicals should be kept separate during transport, storage, use, and disposal; the incompatible chemicals explode or become highly toxic if they come in contact to each other [24]. The proper storage of chemicals in the laboratory can reduce incompatibilities and occupational exposure to chemicals [1]. According to [16], the laboratories must have separate stock rooms for storage of chemicals whereby chemicals are arranged separately according to their hazard category and compatibility. Foster (as cited in Abbas, 2016) also stated that improper chemical storage could increase the risk of laboratory accidents and create a fire hazard, toxic fumes, and an explosion in case of a chemical spill. The survey conducted in Saudi university found poor chemical storage and chemical labeling in terms of segregation of chemicals according to their hazard class [1]. Another study conducted among Thai undergraduate students revealed that the students did not pay attention to safety signs labeled on containers during experiments [6]. However, the study in Swedish schools indicated that most teachers were satisfied with the chemical storage facilities [32].

2.8 Hazardous Waste Management (HWM)

The hazardous chemical waste is generally categorized into chemical waste that results from laboratory experiments and the expired chemicals. Waste which is hazardous for both people and the environment need to be disposed of safely and correctly [18]. In the United States of America, the U.S. Environmental Protection Agency (EPA) regulates the disposal of toxic waste. Offenders were charged and imposed with severe penalties for violating the waste disposal act that came into force in 1976 [25].

At the University of Tokyo, the Environmental Science Center (ESC) centrally controls hazardous chemicals. The disposals of chemically hazardous waste are as follows: Separation and storage according to a separation reference chart by a waste generator at the experimental site; collection, inspection, and preparation for outsourcing by

ESC, followed by intermediate treatment and final disposal by an external contractor [35]. In Bhutan, Waste Prevention and Management Act of Bhutan-2009 emphasizes to ensure that hazardous waste is disposed of in an environmentally sound manner to protect and sustain human health through the protection of the environment [28]. Further, a person guilty of an offense shall be liable to be sentenced in accordance with the Penal Code of Bhutan.

According to [16], it is a worldwide general practice to neutralize acid and base before draining into the sink. However, their study found 68 percent of the chemistry laboratories drain acid or base waste without neutralization. Similarly, the study in Saudi University revealed 91 percent of the participants agreed that the liquid chemical waste is disposed of in the sink [2]. However, [31] guidelines advise to segregate the waste appropriately and dispose of them safely, especially waste of heavy metals and acid-based substances. The waste from the school chemistry laboratory directly goes to the open space from the basin. That waste contains heavy metals, acids, alkaline, and organic solvents. The salts of heavy metals used in chemistry laboratories can be lead acetate, copper sulphate, ferrous sulphate, zinc sulphate, barium nitrate, and manganese dioxide [31]. There is an increasing ecological and global public health concern associated with environmental contamination by heavy metals [34]. Chemicals such as Arsenic, Mercury, Lead, and Cadmium have known human carcinogens, these heavy metals, and their compounds can affect human health [20]. In general, humans are more likely to be exposed to metal contamination from soil that sticks to plants than from bioaccumulation [20]. Therefore, heavy metals and related toxic compounds can be hazardous for human health. The heavy metals like iron and copper are required in trace amounts for various metabolic functions but excessive levels can be ecologically unhealthy. The Presence of heavy metals in air, soil, and water can cause bioaccumulation affecting the entire ecosystem and pose harmful health consequences to all life forms [33].

2.9 Policy and Training

The policy for laboratory safety practice in schools is for the safety of the students and teachers. If policies and guidelines are missing or not implemented, the safety practices in the chemistry laboratory may be taken for granted and undesirable accidents might occur. The students might be exposed to a chemical that harms their health over a long period. The effect is incommunicable immediately. In a study carried out in Nepal, it was found that 87 percent of the teacher respondents believed there was no government agency to monitor safety issues in the

teaching laboratory but the government of Nepal has had safety codes since 1989 [16].

The training on chemical storage and handling are crucial to empower laboratory staff to prevent potential accidents and to prepare them to respond in case of chemical accidents [1]. The teachers must receive all necessary training in case of an emergency because in some cases the teacher may have to act before medical personnel arrives [4]. However, the study in the University of Saudi Arabia found a lack of safety training for laboratory staff [2]. Likewise, the study carried by [23] indicated that 61 percent of the laboratory staff did not receive any training on chemical safety. The policies and training to the teachers and laboratory assistants are very important for the overall safety in the laboratory and cannot be neglected.

2.10 Concluding Statement

Teaching chemistry through practical work is found to be very effective. On the other hand, the use of hazardous chemicals and equipment is unavoidable and they pose a threat to human health and environment in the absence of proper safety practices. Therefore, safety practices in the chemistry laboratories are imperative to avoid accidents, reduce human health hazards, and to protect our pristine environment. Literature pointed out that the implementation of CHP, RAMP principles and proper safety guidelines are some of the recommended safety practices. The researcher found eight major themes to be investigated to understand the overall current safety practices in the chemistry laboratories. The eight major themes that were deduced from the literature are PPE, safety facilities and equipment, safety practices, safety knowledge and skills, EP, HWM, chemical storage and labeling, and training and policy. The number of previous study findings in Nepal, Virginia, Saudi Arabia, and Gaborone has indicated a lack of proper disposal of waste, safety facilities, and lack of training for laboratory staff. At the same time, their findings have also shown adequate safety practices in some of the areas. However, these findings in other countries cannot be generalized to the Bhutanese context. Therefore, this study was conducted to understand the current state of safety practices based on the eight different themes. The findings from this study can be used to understand the status of safety practices and make use of the findings to improve the safety practices in the chemistry laboratories of Bhutan.

III. METHOD

3.1 Sampling

In this study, the target population was science students of class XI and XII, chemistry laboratory assistants, and the

chemistry teachers of the three higher secondary schools of Samtse District. All three higher secondary schools of the District were selected. All the chemistry laboratory assistants, teachers teaching chemistry from classes IX to XII were included in the study. For the students' sample, simple random sampling was chosen to ensure the law of statistical regularity. Of the total 261 students; the confidence level considered was 95 percent and the confidence interval at 5 percent. The sample was calculated using the Cochran method of sample size determination. Therefore, the total sample size was 157 students. The student participants were randomly sampled. Since there were only three schools in the entire District, all 3 chemistry laboratory assistants and 9 chemistry teachers were involved in the study.

3.2 Data Collection Tools

In this study, three different questionnaires were developed using 5 points Likert Scale for the students, teachers, and laboratory assistants. The participants were required to rate the items/statement by ticking the most appropriate in their opinion.

A 41 items five point Likert scale survey questionnaire consisting of statements covering PPE, safety facilities, safety practices, skills & knowledge, waste management and emergency planning. Further the students were interviewed with semi-structured questionnaires.

Similarly, a 49 items five point Likert scale survey questionnaire comprising aforementioned thematic areas were assessed. In addition, training and policy was also included. Further the teacher respondents were face to face interviewed and a checklist of safety items and procedures were provided. In the similar way, the laboratory assistants were also made to respond to the same survey questionnaire with additional thematic areas such as labeling and storage of chemicals and safety documents and policies availability.

3.3 Data Collection

The study is based on a mix method. The quantitative assessment was carried out using survey questionnaire with five point Likert scale and checklist and qualitative assessment was done through direct classroom observation and semi-structured interview. The survey inspection checklists were also used to collect information about the overall chemistry laboratory safety. The laboratory assistants filled the checklist personally. In addition, a semi-structured interview method had been used. For chemistry teachers and chemistry laboratory assistants, face to face interviews and for students, focus group discussions were conducted.

3.4 Data Analysis Procedure

The data collected from the qualitative and quantitative method were analysed separately. The data collected through qualitative methods like practical class observations and interviews were analysed thematically. The quantitative data collected using a questionnaire and checklist were analysed by using SPSS 22.0 (Statistical Package for Social Sciences). The inferential and descriptive analysis was done by running an independent sample t-test, calculating the mean, percentage, and standard deviation.

3.5 Results Interpretation

The results were categorized according to a mean interpretation scale adapted from past studies. The interpretive scale was used to benchmark respondents' rating towards schools' chemistry laboratory safety according to the mean score obtained. The ratings were divided into five levels: very poor, poor, moderate, good and very good. Further, Very good and good were categorised as positive, very poor and poor were categorised as negative, and moderate as moderate.

Table 1. Interpretation of Rating on Chemistry Laboratory Safety.

Level of Rating	Mean Range	Interpretation
Strongly Disagree	1.00-1.80	Very Poor
Disagree	1.81-2.60	Poor
Not Sure	2.61-3.40	Moderate
Agree	3.41-4.20	Good
Strongly Agree	4.21-5.00	Very Good

Adapted from [27].

3.6 Ethical Consideration

The ethical issue in this study is taken into an account by the researchers. Before the data collection, the written permission to conduct the research was sought from the concerned authorities. Further, the consent was obtained from the participants who were interviewed.

IV. RESULTS & DISCUSSION

The findings are presented under eight major themes; PPE, safety facilities and equipment, general safety practices, safety knowledge and skills, EP, chemical storage and labeling, HWM, and training and policy. The interview

verbatim are used and the anonymity of the interview participants are maintained using pseudonyms like T_01, T_02... for teachers, CLab_01, CLab_02... for laboratory assistants, Std_01, Std_02... for students and SFG_01, SFG_02... for students' focus group interview.

4.1 Accidents and injuries

The study through various means observed that there exist accident and injury incidences in the Chemistry laboratories in our schools. Of the 169 respondents 55 (32 percent) responded and agreed that they have been a part of an injury or accident incident in the lab. The cases were noted during the interview and checklist from the teachers and student participants as well. It was interesting to note that most of the incidents were due to poor handling of acid, glass apparatus and pipetting chemicals with the mouth. The observation was in fact close with what was observed by a similar study in Nepal where accidents were common and reasons being one of the major issues observed in the study [16].

It was also noted through the survey inspection checklist that none of the chemistry laboratories had maintained accidents records. The same was observed by some studies in Saudi university, where they also found no single laboratory that recorded the accidents and laboratory injuries [2]. The reason for the lack of accident records could be due to a lack of policy, awareness, and training.

4.2 Personal Protective Equipment (PPE)

The survey findings indicated varied responses among three different categories of participants regarding the use of PPE. The students marked "moderate" with average mean score of 3.32, teachers marked "good" with average mean score of 3.80 and laboratory assistants marked "very good" with average mean score of 4.60. This generally indicates school chemistry laboratories are doing quite well in terms of the proper use of PPE. However, students and teachers responded "poor" and "moderate" for the item "students always use hand gloves while handling chemicals" with mean scores of 2.50 and 2.89 respectively. The lack of such laboratory ethics could be because of the shortage of hand gloves as the checklist findings revealed that there were just 10 to 15 pairs of hand gloves in the chemistry laboratory for 30 to 43 students in each class. This finding is not in line with the laboratory safety guidelines. According to [31], suitable protective gloves should be worn while washing apparatus, handling dangerous chemicals, handling chemicals sensitive to the skin that can cause allergy, and handling hot apparatus. This finding was similar to the study conducted in Saudi Arabia where they found a lack of wearing hand gloves and the numbers of hand gloves were very less than the requirement [2]. It is also consistent with

the study in Nepal where only 57 percent of the participants agreed that gloves were used while handling chemicals [16].

Secondly, students marked "poor" for the item "teachers wear safety goggles all the time during practical" with a mean score of 2.48. Further, this finding was supported by the findings from the checklist and class observation. The findings from the checklist have shown that in one of the schools there were only 3 safety goggles for 43 students. During the class observation too, most of the experiments were carried out without the use of safety goggles. This finding is not in agreement with the safety guidelines that say protective safety goggles must be worn in all circumstances and failure to do so will be regarded as negligence [31]. This finding is similar to the study by [18] at Pahang, Malaysia where his study found an inadequate amount of safety goggles in their school science laboratories.

The study findings also indicated enough laboratory coats for the students and teachers. On the other hand, some students were found wearing laboratory coats keeping the buttons untied and in two of the schools, the laboratory coats were short sleeves. Such laboratory coats with short sleeves and the habit of keeping buttons of lab coats untied may not fully protect the person from hazards such as a spill of chemicals. In the schools, teachers and laboratory assistants had a good practice of enforcing the students to wear PPE. Such practice is righteous and may have avoided many undesirable accidents.

4.3 Safety Facilities and Equipment

One of the causes of accidents in chemistry laboratories is due to inadequate facilities and equipment. Therefore, this study explored the availability of the following facilities: water, soap, glass disposal bins, safety manual, and proper ventilation, fume hood, and pipette filler. In the survey questionnaire, students and teachers marked "good" with mean scores of 3.95 and 4.14 respectively, whereas laboratory assistants marked "very good" with mean scores of 4.33. This finding indicates the availability of the safety facilities and equipment. Further, this finding was supported by checklist findings. Yet, unavailability of fume hood and pipette filler in all the schools was pronounced from the interview and checklist.

The findings have indicated the availability of soap and water. This helps in keeping laboratory workers safe from chemical contamination and poisoning. This finding is in line with [24], which states that even if hand gloves are worn, hands should be washed with soap and water immediately after working with any laboratory chemicals.

The use of glass apparatus is unavoidable in the chemistry laboratories, at the same time they are probable to break at

any time. Therefore, the glass disposal bin is an important requirement for housekeeping. As required, study findings revealed the availability of glass disposal bins in all the chemistry laboratories. Interestingly, this finding is in contrast to the study in Saudi University and Virginia where their findings indicated the lack of glass disposal bins in their chemistry laboratory [29]. Such contrast findings could be the result of trained laboratory assistants in Bhutan because this study finding also indicated that all laboratory assistants of the schools were trained on laboratory safety management once.

However, this study also revealed the unavailability of fume hoods in the chemistry laboratories. This finding is in contrast to the findings in Sweden where they found that working and regularly inspected fume hoods are available in all the school laboratories [32]. Interestingly, teachers and laboratory assistants are aware of the significance of the fume hood. Thus, they strongly recommend fume hood for the chemistry laboratories. Some teachers pointed out that the new chemistry syllabus from classes XI-XII demands the use of fume hood because there are experiments which are supposed to be performed in a fume hood.

Likewise, this study finding revealed the unavailability of pipette filler in the chemistry laboratories. Such unavailability of pipette filler is not in agreement with the laboratory safety guidelines by [8] and [31] which discourages the students and teachers to pipette chemicals with mouth and encourages using pipette filler. Most teachers feel it is unsafe to pipette chemicals with the mouth. They also shared many incidences of student accidentally sucking chemicals. Some students also shared the incidence where they mistakenly pipetted chemicals in their mouth.

4.4 General Safety Practices (GSP)

General safety practice in this study refers to common safe work practices followed in the chemistry laboratories as per the safety guidelines. In chemistry laboratories, the accidents and undesirable exposure to the hazardous chemical can be avoided to some extent by adhering to general safety practices. For this, in the survey, the students and teachers marked "very good" as shown in Table 2 and Table 3 respectively. This could mean that safety practices are followed properly in the chemistry laboratories. Further, this finding is supported by findings from the class observations and interview. It is interesting to note from the interview that teachers and lab assistants frequently brief students on safety rules and regulations. Most importantly, the safety rules and regulations were also found displayed on the walls of the chemistry

laboratories. This finding is in agreement with [4] which state that it's imperative to create a culture of safety from the first meeting of the class. Similar to this finding, the study conducted in Sweden also depicted that all the teachers controlled the safety knowledge of the students before starting the laboratory work [32]. In contrast, the study conducted in Pahang, Malaysia found only 55.9 percent of the teachers explained science laboratory safety rules in the beginning of the school session.

Table 2. Students' rating on general safety practices in the chemistry laboratory.

Items	Mean	SD	Level of Rating
Written safety rules and regulations are explained in the first practical class by the teacher.	4.69	0.64	Very Good
Practical classes are always supervised by the teacher.	4.71	0.67	Very Good
A teacher does not allow you to bring food and drinks to the laboratory.	4.53	0.87	Very Good
Always clean the basin and other equipment used before leaving the laboratory.	4.55	0.76	Very Good
All girls come to the chemistry laboratory with their hair tied at their back.	4.06	1.11	Good
Average	4.50	0.53	Very Good

Table 3. Teachers' rating on general safety practices in the chemistry laboratory.

Items	Mean	SD	Level of Rating
Written safety rules and regulations are explained in the first practical class by the teacher.	4.33	1.0	Very Good
I supervise all practical lessons.	4.67	0.71	Very Good

I do not allow students to bring food and drinks in the laboratory.	4.67	0.71	Very Good
Students always clean the basin and other equipment used before leaving the laboratory.	4.0	1.32	Good
All girls come to the chemistry laboratory with their hair tied at their back.	4.11	1.05	Good
Average	4.45	0.82	Very Good

During the class observation, it was observed that teachers and laboratory assistants were actively supervising the students throughout the practical classes. This finding is in accordance with the guidelines of [4], which states that teachers have to closely supervise the students in chemistry laboratories all the times in order to minimize risk during the experiment [4]. This finding is analogous to the study findings in junior secondary school laboratories in Gaborone where practical classes are well supervised by the teachers [23].

The findings from this study also indicated that food and drinks were strictly prohibited in the laboratory. This finding is congruent to the study findings in Nepal where they found the majority of the teachers were prohibiting food and beverages inside the laboratory [16], which is well aligned to the safety guidelines that emphasize not to allow students to eat or drink anything inside the chemistry laboratory ([4]; [8]; [31]).

4.5 Safety Knowledge and Skills

Table 4, 5, and 6 depicts that the overall safety knowledge and skills of the students, teachers and laboratory assistants' are above average. All the items in this category were marked "good" and above except the item on "I know how to use fire extinguisher" was marked "moderate" by the students and laboratory assistants. These findings on the use of fire extinguisher were further triangulated with the interview findings. Upon triangulation, it was found that 75 percent of the teachers were not confident to use fire extinguishers practically, except T_04 said he is confident to use fire extinguishers in case of emergency. Similarly, two laboratory assistants expressed unconfident to use fire extinguishers. Likewise, out of 20 student participants, only one student expressed his confidence to operate a fire extinguisher. As a result, this finding could mean that most of the students, teachers, and laboratory assistants are unable to use fire

extinguishers. Actually, as per the guidelines of [4], the teachers who have the rights to use fire extinguishers in case of emergencies must be trained on its proper use.

Table 4. Students response on safety knowledge and skills.

Items	Mean	SD	Level of Rating
One should not face the mouth of the test tube towards friends or self while heating substance in the test tube.	4.87	0.45	Very Good
While mixing acid and water, the acid must be always added to water.	3.82	1.16	Good
I know how to use first aid kit during an emergency	3.54	0.85	Good
I know how to use a fire extinguisher	2.87	1.27	Moderate
I know how to respond in case of a burn which occurs with contact to hot objects	3.43	1.06	Good
Average	3.70	0.62	Good

Table 5. Teachers' response on safety knowledge and skills.

Items	Mean	SD	Level of Rating
One should not face the mouth of the test tube towards friends or self while heating substance in the test tube.	4.67	0.71	Very Good
While mixing acid and water, the acid must be always added to water.	4.78	0.67	Very Good
I can recognize the common laboratory hazard symbols	4.67	0.50	Very Good
I know how to use first aid kit during an emergency	4.22	0.97	Very Good

I know how to use a fire extinguisher	3.67	1.12	Very Good
I know how to respond in case of a burn which occurs with contact to hot objects	4.00	0.71	Good
Average	4.33	0.37	Very Good

Table 6. Laboratory assistants' response on safety knowledge and skills.

Items	Mean	SD	Level of Rating
One should not face the mouth of the test tube towards friends or self while heating substance in the test tube.	5.00	0.00	Very Good
While mixing acid and water, the acid must be always added to water.	5.00	0.00	Very Good
I can recognize the common laboratory hazard symbols	4.67	0.57	Very Good
I know how to use first aid kit during an emergency	4.00	1.00	Good
I know how to use a fire extinguisher	3.00	1.00	Moderate
I know how to respond in case of a burn which occurs with contact to hot objects	4.33	0.57	Very Good
I am aware of the negative health impact of mercury	4.67	0.57	Very Good
I can identify compatible and non-compatible chemicals	4.00	0.00	Good
I am aware of all my job responsibilities as a laboratory assistant	5.00	0.00	Very Good
Average	4.33	0.37	Very Good

Su and Hsu [as cited in [6]] explain that the accidents related to chemicals mostly occur due to the neglect of the precautionary symbols on the chemicals. Therefore, students and teachers should be able to recognize safety signs and symbols. For this, students' safety knowledge based on the recognition level of safety signs and symbols was investigated using null hypothesis: "class XI and XII students have the same level of recognizing safety signs and symbols". Students were asked to recognize and name eight common safety signs and symbols that were selected from class XI-XII practical manuals. The correct and incorrect answers from the test were computed and shown in Table 7. The data were analysed by giving one mark to the correct answer. No mark was given to the wrong, blank or more than two names for the hazard symbols.

Table 7 reveals that the majority of the students wrongly answered the symbols such as toxic, oxidizer, harmful and caution. This could mean that students' were not able to adequately recognize the common laboratory hazard symbols. However, it is interesting to note that the safety sign and symbols were displayed in all the chemistry laboratories. Moreover, all necessary safety signs and symbols were mentioned clearly in the practical manual for classes XI-XII. This finding is parallel to the finding from the study by [36], where they found that most of the students were not able to adequately recognize the common laboratory hazard symbols. This finding was also parallel to the study in Thailand, where the findings indicated that most students were unable to match chemicals with their safety signs correctly [6].

Table 7. T-test to conduct the effect of class on students' recognition level of common laboratory hazard symbols

Class	N	Mean	Mean difference	SD	P	Cohens d
XI	85	2.66		2.191		
XII	72	1.54	1.117	1.310	.00	0.62

In this study, the significant difference of the students' ability to recognize common laboratory hazard symbols between class XI and XII were tested using independent sample t-test. The test revealed a statistically significant difference between the mean score of class XI ($M = 2.66$) and class XII ($M = 1.54$) at $p = 0.00$, $\alpha = 0.05$. (Refer to Table 7). Since the p-value is less than alpha ($\alpha = 0.05$), the null hypothesis was rejected. The findings have shown that the class XI students ($M = 2.19$) outdid class XII ($M = 1.31$) students. Further, this is evident from Table 7 that 61.9 percent of class XI students could recognize the

hazard symbol for oxidizer symbol as larger as 100 percent of the class XII students could not recognize the same symbol correctly. The similar result is also observed with respect to corrosive and irritant hazard symbols (Refer to Table 7). For this investigation, the sample size was above 30 participants, the effect size was calculated using the Cohens d test. The value of 0.62 calculated from Cohens d test confirms that the standardized measure of the effect size of the sample is above medium effect size. The better performance of class XI in recognizing safety signs and symbols could be due to the student's interest. The other reason could be because of the teacher's involvement in assuring the students to remember safety signs and symbols. As one of the teachers teaching class XI told that, he makes students remember safety signs and symbols thoroughly.

4.6 Emergency Planning (EP)

Emergency planning in this context is the process of accessing risk, creating plans for identified risk and implementing measures to avoid accidents. The students, teachers and laboratory assistants marked "good" and above for the emergency planning in terms of: availability of first aid kit, the readiness of wash bottles to be used as an eyewash, keeping walkways and exits free of obstruction, and awareness on the location of emergency exits and fire extinguishers. This finding is similar to study conducted in Swedish schools by [32]. Their findings have indicated that laboratory equipment such as safety showers, emergency first aid kits, and eyewash facilities were regularly checked. Hence, the finding of this study could mean that emergency planning based on the above-mentioned aspects is at par with the chemistry laboratories of a developed country like Sweden. However, there are other aspects that need attention.

The finding from the checklist revealed that 100 percent of the chemistry laboratories were well equipped with the fire extinguisher. Further, the students and teachers were aware of the location of the fire extinguisher. However, one of the major issues observed in the study was that most of the teachers, laboratory assistants, and students were not confident to use fire extinguishers. Hence, the purpose of placing a fire extinguisher for the chemistry laboratory is defeated. This could be due to a lack of training on the usage of fire extinguishers and needs immediate attention.

Another, important requirement for the chemistry laboratory design is to have separate exit doors. However, 66.7 % of the chemistry laboratories in the schools did not have separate emergency exit doors. This finding is in contrast to the study finding in junior secondary school laboratories in Gaborone where they found most of the laboratories with two exit doors in case of emergency [23].

In fact, the emergency exit doors are mandatory because of the large number of students it is very inconvenient to evacuate during mishaps. During the interview, most of the teachers and laboratory assistants expressed the need for a separate exit door.

Finally, the findings from the checklist indicated the absence of a separate written emergency action plan for the chemistry laboratories in all the schools. This finding is in contrast to the guidelines by [24] which emphasize every laboratory to have an emergency preparedness plan, in which details of the plan varies depending on the department and plans already in place. Further, Abbas

[1], claims that an emergency action plan is useful to cope with emergency situations. Nevertheless, most of the aspects of the emergency action plan are included in the Practical Manual for classes XI-XII. This could mean that in one way, there is emergency planning in school chemistry laboratories. However, separate documented emergency planning may have a greater impact.

4.7 Chemical Storage and labelling

Chemical storage in this study refers to the storage of chemicals in a separate chemical storeroom according to their hazard category, compatibility, and in alphabetical order. Labeling refers to the label of the chemicals based on the classification and legible labeling of hazardous chemicals. The additional items on chemical storage and labelling was included in the survey questionnaire for the lab assistants. For this, lab assistants marked "very good" with an overall mean score of 4.33. For the individual items, refer to Figure 1. Checklist findings too revealed the same. This finding is well aligned to [24] where they stated that incompatible material should be kept separate because the contact among these compatible chemicals results in serious explosion or the formation of substances that are highly toxic or flammable.

Table 8. The average mean score of response on hazardous waste management.

Participants	Mean	SD	Level of Ratings
Students	3.22	0.61	Moderate
Teachers	3.79	0.42	Good
Laboratory Assistants	4.42	0.58	Very Good

The findings from this study also revealed that the chemicals are stored appropriately in the chemistry laboratories. This finding corresponds to the findings in Swedish schools where most of the teachers were satisfied with the chemical storage facilities [32]. This finding could mean that there is a good practice of storing chemicals, thereby reducing students and teachers'

exposure to chemicals. According to [1], it states that the proper storage of chemicals can reduce occupational exposure to chemicals.

4.8 Hazardous Waste Management (HWM)

The survey findings indicated varied responses among three different categories of participants regarding the hazardous waste management as shown in Table 8. Hazardous waste management in this study refers to proper management of hazardous waste generated from the chemistry laboratory having potential threat to human health or the environment. Hazardous waste is any substance that causes harm to human health and to the environment if it is not adequately handled, treated, stored, transported, and disposed of [26]. Therefore, hazardous waste management is imperative. The findings from the survey revealed the practice of proper hazardous waste management in terms of: diluting waste of acid and base with water before throwing into the sink, collecting organic waste in a separate container, and using the separate container for broken glass and sharp objects. These findings were further supported by the interview findings. However, most of the students, teachers and lab assistants agreed that acid and bases were not neutralized before throwing in the basin. In line to this, one of the survey questionnaire items was also set to find how the chemicals waste such as salts, organic compounds, and acid and base are disposed of after the experiments. The item says “*the chemicals used during practical are thrown directly into the drain/sink*”. The (64.3 percent) of the students, (33.3 percent) of the teachers, and (66.7 percent) of the laboratory assistants agreed that they throw the chemical waste directly into the sink.

This indicates that most hazardous chemical wastes were disposed into the sink without any treatment except diluting of acid with water, which finally flows to the environment. In contradiction to this finding [26] states that treatment of hazardous material before disposal is important in order to reduce concentrations of hazardous compounds. Further, [4] and [10] states that the chemical waste generated in the laboratory can result in serious damage to the environment. This disagreement could be due to lack of implementation of the code or maybe the amount of hazardous waste generated in the chemistry laboratory is considered negligible. However, there is a need to consider hazardous waste seriously in school chemistry laboratories.

4.9 Training and Policy

The findings from the survey data showed that 100 percent of the lab assistants have received at least one course on science laboratory management but no (0 percent) teachers received any training on science laboratory safety. This

finding did not align with the guidelines by [4] which states that the teachers must receive all necessary training because in case of an emergency, teachers may have to act before medical personnel arrives. Similarly, [1] also states that training on chemical storage and handling are crucial to empower laboratory staff to be able to prevent potential accidents and to prepare them to respond in case of chemical accidents. Therefore, adequate safety training to the laboratory assistants and teachers is essential. It is interesting to note that, during an interview teachers and lab assistants expressed the need for training to make the chemistry laboratory a safer place. The teachers and lab assistants also marked “*strongly agree*” with mean scores of 4.67 and 5 respectively for the item: “*My students and I would benefit from a short course or workshop on laboratory safety measures/practices.*” This finding is similar to findings in Nepal by [16], where the majority of the participants believed that they would benefit from the short course or workshop on laboratory safety. Similarly, the study in West Virginia high schools has found that teachers were in favour of the safety training of all science teachers regardless of discipline [29].

The overall safety practices in the chemistry laboratories depend on certain safety guidelines, policies and its implementation. Regarding the safety policy, there were varied opinions as laboratory assistants marked “*strongly agree*” for the item on “*there is safety policy for the chemistry laboratory in schools*” whereas, teachers marked “*not sure*”. To elucidate mixed findings, the researcher further investigated by asking the documents. It was found that safety guidelines in the practical manual were available but policy was not. This finding is in contrast to the findings in West Virginia where they found a lack of safety manual [29]. However, this study finding indicated no evidence of a separate policy document for chemistry laboratory safety. This finding on the lack of policy for chemistry laboratory safety is consistent with [16] where they stated that some developing countries lack policy for chemical safety.

V. RECOMMENDATIONS

Based on the findings of this study, in order to enhance safety practices and facilities in the chemistry laboratories to avoid unbearable loss due to accidents. The study recommends MoE in consultation with REC may provide training on chemistry laboratory safety to chemistry teachers and the lab assistants. Teachers and lab assistants need to create awareness on the importance of laboratory safety signs and symbols and should come up with innovative pedagogical techniques to ensure that each student recognizes safety signs and symbols correctly.

Further, Lab assistants have to keep records of accidents and injuries in the chemistry laboratories. School management should ensure the availability of PPE and equipment such as hand gloves, safety goggles, pipette filler, and fume hood for the chemistry laboratory. Finally, MoE in collaboration with NEC and REC may come up with treatment strategies for hazardous chemical waste from the school chemistry laboratories to avoid environmental pollution.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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A situational Analysis of the faculties' Industrial Attachment programme at public Technical Training Institutes (TTIs) in Bhutan

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Abstract— *The study was conducted in three Technical Training Institutes (TTIs) in Bhutan. The objective of the study was to investigate the challenges facing industrial attachment as a learning experience for automobile faculties. The population of the study involved all the faculties of TTIs namely Ranjung, Thimphu and Samthang. However, the researcher used a sample size of 64 respondents (purposive sampling) for the study. The data was collected from the respondents through a research-designed survey questionnaire administered through the Online Google Form. Nonetheless, 58 questionnaires were received. The validity and reliability of the instruments were determined by pre-testing the instruments before taking into consideration for analysis. The data collected was analysed using SPSS software. Cronbach-Alpha analysis was used to determine the reliability value of data. And the value of pre-test data was calculated at 0.788.*

The findings of the study concluded that the faculties of the three automobile institutes expressed high satisfaction with the program objectives, the usefulness of the program, adequacy of knowledge and skills acquired through the program.

However, the study also concluded that the challenges they faced compromised the quality of engagement and meaningful learning experience. In this context, the researcher recommended that industrial attachment must be planned and implemented as a genuine learning experience right from the start. This could be done by allocating adequate funds to support the faculties' interns and, enable the Technical Vocational Education and Training (TVET) institution to maintain the relevancy of the attachment program and the industry. The immediate attachment supervisors of the industries should also be trained to deliver quality training and education to the faculties during the industrial attachment. This calls for a closer and synergized working relationship between the TVET institutions and the industries so that effective and uncompromised industrial attachment is ensured.

Keywords— *challenges, faculty, industrial attachment, knowledge and skills, quality engagement.*

I. INTRODUCTION AND THE BACKGROUND

The importance of Vocational Education and Training (VET) was recognized by Royal Government of Bhutan as early as second Five Year Plan (FYP) in the mid of 1960s. It was during the time that the first technical school, the Kharbandi Technical School was established in the country. A decade later, the Royal Government took a step further by restructuring and reviewing the courses of the school and

shifting the focus more on the technical and vocational aspect of it. The nomenclature of the school was changed to Royal Technical Institute (RTI) under then the Ministry of Social Service. Further, the need for a national authority for technical education was conceived during 1974.

However, it was only in May 1999 that the Technical and Vocational Education Section (TVES) was disengaged from the Department of Education under then the Ministry of Health and Education (MoHE) to create the National

Technical Training Authority (NTTA) through a Royal Charter. The NTTA was established to develop a vocational education and training system to —produce a skilled and productive workforce for the growing economy of the country.

The NTTA was responsible for the implementation of vocational education and training through the existing training institutions and different training schemes as well as regulating the quality of vocational education and training. In 2003, the functions of NTTA were transferred to the newly established Ministry of Labour and Human Resources (MoLHR). With this, roles and responsibilities of NTTA were bifurcated into two departments, the Department of Occupational Standards (DOS) and the Department of Human Resources (DHR) and later in 2017, it was renamed as Department of Technical Education (DTE). The DOS had the mandate to develop/support quality assurance system and vocational qualification framework and to develop/implement National Accreditation System (NAS) to accredit TVET programs with in the country, whereas DTE was mandated to ensure availability of adequate human resources both in terms of numbers and quality to facilitate sustainable socio-economic development of the country. As such, DTE was entrusted with the responsibility for all aspects concerning TVET and skill development of the country.

While the MoLHR was committed to making TVET as the mainstream choice for school leavers and the youth, TVET in Bhutan encountered with packs of challenges. While there are more than 115 TVET (both public and private) providers in the country (MoLHR, 2020) the programs are limited to few skills areas due to lack of resources and know-how in diverse training areas. TVET also required higher investment and dynamism to match technological changes, industry needs, the rapid globalization of trade and commerce, sustainable development and emergence of the knowledge economy, thus requiring financial sustainability mechanism put in place.

Despite its long transformation, the TVET system is still constrained by the lack of relevancy of skills and training to actual labour market requirements, **limited availability of qualified instructors**, assessors, weak industry-institute linkages and a high unemployment rate of 2.1% (DEHD, 2016).

Although many variables affect the success of TVET programs, it is the nature of the interaction between trainer and trainees that has the greatest impact on the learning. The qualification of skilled workers is a key issue for the competitiveness of economics all over the world, and the

quality of TVET trainers are crucial in determining the skills of future workers. Building the capacity of the TVET trainers is seen as one of the surest strategies to improve quality and delivery of TVET.

As such, the MoLHR since its inception has provided its professional and technical support to all the public and private TVET provides through the implementation of Training of Trainers (TOT) in pedagogy. Besides, the institute management also provided support in capacity development through industrial attachment program with industries to constantly update the technological changes. This initiative of trainers' industrial attachment did not seem to have improved since its implementation in early 2000 with no serious commitment from the stakeholders due to absence of national policy in place. The underline objective of updating knowledge and experience on changing technologies and acquire practical skills remain a distant dream which has a cascading effect on the quality of TVET graduates.

The above important issues have prompted the researcher to evaluate the industrial attachment programme offered by public TVET institutions. This study also aimed to investigate the challenges facing industrial attachment program.

1.1 Statement of the problem

Today's fast-moving, technology-driven world demands hands-on skills for survival in the employment market. Over the years, unemployment has become a major problem for the country and successive governments have not been able to solve it as expected despite putting in mechanisms to curve it. The findings from the tracer study (MoLHR, 2020) reported that the skills mismatch challenge is blamed for the contradictory problems of shortage of national skilled workforce and unemployment among the younger age cohort. It was also reported that many other cross-cutting factors appear to deter, demotivate or obstruct graduates from performing well in the labour market. To achieve this ambition, industrial training programmes for both the faculty and trainees were introduced in the TTIs since 2000.

The purpose of attachment was to acquire practical skills in their occupational areas and to acquaint themselves with how new technologies, machines and equipment they have heard of and read about function. The essence of industrial attachment is to develop the practical competency of the trainer and provide them with the requisite knowledge to contribute their quota towards developing society and meet industrial standards after graduation.

Several concerns were being raised by employers on the TVET institutions failing to produce graduates with relevant

skills for employment. This has become a problem worrying stakeholders including trainees and trainers because on the job training is done in the same industry or organizations. Many faculties on attachment blame on- the -job training environments. Thus, one of the most important features of technical and vocational education and training is its orientation towards the world of work and the inclusion of work-integrated learning (Donkor et al, 2009).

The unmet objectives of the faculty who undergoes industrial attachment program have been extensively expressed by the current trainers although they are sent yearly depending on the availability of budget. It was of their view that current practices of sending them to the attachment for two weeks need thorough scrutiny. They expressed that the learning outcome during attachment was 5% if they are sent to private workshops and 30-40% if attached to government-owned workshops. They also pointed out that most of the time they are left alone without any care and responsibility by the proprietor and quite often, the attachment period is completed in doing irrelevant jobs.

Thus, attempt is being made to undertake a situational analysis on current practices of industrial attachment and recommend few strategies to the relevant agencies for effective industrial attachment for faculties.

1.2 Purpose of the study

The purpose of this study was to investigate whether automobile faculties' industrial attachment provides a meaningful and effective learning experiences to the faculties involved. The study hoped to achieve this by investigating the attainment of attachment objectives, adequacy of the skills gained, the usefulness of the program, challenges faced by the faculties during their industrial attachment and explore some strategies to curb the issues. Further, it was also to investigate the extent to which theory and practice in the curriculum relate.

1.3 Research Objectives

The general objective of this study was to investigate the challenges facing industrial attachment as a learning experience for automobile faculties. To accomplish this, the study was guided by the following specific objectives:

1. To determine the extent to which theory and practice relate as per the curriculum.
2. To identify the challenges faced by faculties while on industrial attachment.

3. To establish the synergy for effectiveness between the Institute and industry supervision during the industrial attachment.
4. To find out whether automobile faculties' industrial attachment provides a meaningful learning experience to the staff involved.
5. Determine strategies for effective implementation of an industrial attachment.

1.4 Research question

The research aimed to answer the following questions:

1. Do the current practices of attachment fulfil the objectives of the program?
2. How do faculties of automobile institutes rate the usefulness of the industrial attachment program?
3. How adequate are the knowledge and the skills acquired during attachment?
4. What are the problems experienced by students during their industrial attachment?
5. How are we going to make this industrial attachment program more effective and efficient? (Strategies)

1.5 Significance of the study

Industrial attachment is a fundamental and additional component of the TVET programmes offered in many technical institutions in Bhutan as a means to enhance capacity development of trainers besides TOT. The findings of this study were therefore expected to be a great use to technical education planners and policymakers by giving them a picture of the challenges faced by the institutes while implementing industrial attachment. The findings of this study would also assist TVET leaders in developing a new and innovative approach to staff industrial attachment involving all the stakeholders. This would call for a strong working relationship among faculties, the industry and the institutions offering the programme.

Apart from adding to the world of knowledge in TVET faculty industrial attachment, this study would also act as a provocation and a springboard from where other researchers can carry out further research in the field of industrial attachment. Although the programme was about three decades old it still has teething problems. There has still several issues to be attended to. Therefore, the need to get feedback from faculty on their perception of these industrial attachments plays a critical role in bringing a paradigm shift in the attachment process.

II. METHODOLOGY

This section contains the methods and procedures that were employed in conducting the study. Here, the researcher gives a description of the Research design, Study variables, Target population, Sampling techniques and Sample size, Study instruments, Data collection techniques, Data analysis, scope of the study and its limitation, Reliability and Validity, and Ethical issues.

2.1 Research Design

The study employed cross-sectional descriptive survey with a researcher-designed questionnaire for data collection to provide answers to the research questions. Since the study sought to assess an on-going program, the survey research method was deemed appropriate. In the view of Osuala (1993), the survey method is appropriate for conducting a study into an on-going process. The choice of the survey method was also informed by the views of Cohen and Manion (1995) who have indicated that the survey approach was useful in comparing conditions of an on-going activity against pre-determined standards. The study tried to answer the questions of what, when, where and how but not on why.

2.2 Research Instrument

Although several instruments for data collection could have been used, the study employed the researcher designed survey questionnaire. Questions, both structured and open-ended were used to collect data from the faculties. The structured questions were used because they were easier to administer, analyse and economical in terms of time and money. Open-ended question included in the questionnaire helped to inspire the respondents to a greater depth of responses about their experiences during industrial attachment. The researcher used online google forms to distribute the survey questionnaire through their email.

2.2. Sample size and location

The target population were faculties of the three institutes that offer automobile course. Due to inconveniences in covering the whole population of the 6 TTIs and 2 Institute of Zorig Chusum (IZCs) and also to ensure credibility of the study, purposive sampling was used to determine number of samples from TTI Ranjung, TTI Thimphu and TTI Samthang. Those were faculties who had gone for industrial attachment during their service time at least for once. Of the 64 respondents from three automobile institutions whom I sent them the survey questionnaire through Google Form, 58 of them have responded the questionnaire achieving the minimum sample size requirement. However, the sample size was determined

by using the formula developed by Krejcie & Morgan (1970) which required minimum of 55 sample size. The equation is:

$$s = X^2 NP (1 - P) \div d^2 (N - 1) + X^2 P (1 - P)$$

s = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level

(3.841).

N = the population size

P = the population proportion (assume to be .50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (.05).

2.3. Method of data analysis

The data collected was edited and fact-checked for any inconsistencies. Pre-coding had already been done for the closed-ended questions by using 5 points Likert scale whereas theme coding for the open-ended questions was done after data collection. The coded data were then analysed thematically using the Statistical Package for Social Sciences (SPSS). Cronbach-Alpha test was used to establish the significance of the relationships between the variables. The confidence level was set at 0.05 (95%) as recommended by Cronbach (1951) for most descriptive researches. Descriptive statistics such as percentages and mean were used to describe the data while tables and pie charts were used to illustrate the results as shown in the following topics.

2.4 Scope of the study

This situational analysis on faculties' industrial attachment programme may not fulfil the needs of every institution as other programmed based study does, but it will be useful to the following stakeholders:

1. Department of Technical Education, MoLHR may use this as feedback on the industrial attachment activity to provide technical and financial support to strengthen the program.
2. Serve as the retrospective evaluation and foundation to developing prospective strategies by TTIs and IZCs on similar activity.
3. The attachment partners (Industries), policymakers and national TVET stakeholders for policy intervention.

2.5 Limitations

The study took into consideration of faculties (teaching and administrative staff) from three automobile trade owing to diverse nature of the courses offered in TTIs and IZCs. Notwithstanding, this study may not merit appropriate representation and generalization but may use the findings of this study by other institutes in exploring answers to the issues they encounter in regards to their attachment system.

While the research design employed in this study has its own advantages, it has also limitations which the design cannot escape. The limitation lies in the sample size, construction of questionnaire items and response rates. Specifically, the purposive sampling method used here was subject to researcher's own interest in determining the samples of the study. This would have impeded the collection of representative data from the population which undermined and compromised the objectivity of study. Moreover, the survey research is prone to researcher error, where assumptions are made about the sample that may not be accurate.

III. LITERATURE REVIEW

This study was based on the Royal Government's TVET policy documents, DTE publications, MoLHR survey reports and other noteworthy international TVET studies. The precedence of the TVET has been introduced and established during as early as Bhutan's Five Year Plans which was started in 1961. Even so, the literature shows that there is a notable absence of deeper research and analysis into the issues and development of the TVET sector in Bhutan. The existing literatures are few and far from relevancy to the current settings. However, they are illuminating for this study.

Though the provided information in the existing literatures are beyond the scope of the study, they were directly or indirectly relevant to the assumptions and interpretation of the results herein. Some of the notable reference documents, as aforementioned, are the Human Resource Development Master plan for economic Sectors, TVET statistics, Tracer Study Report, National HRD Advisory and the TVET Blueprint. Further, in absence of existing literature in the Bhutanese context, the problem of the study was generated from those staff who had been in the system for decades and were victims of frequent transaction in the system.

IV. DATA PRESENTATION AND ANALYSIS

This section deals with data collection and processing in which the Google Form was used to reduce the volume and process into significant information. Patton (1990) said, "the challenges is to make sense out of the massive amount of data, reduce the volume of information, identify significant patterns and construct a framework for communicating the essence of what the data reveal" (p.272). This section covered the biographical information of the participants such as gender, qualification, status and the number of years in the service.

4.1 Gender

Table 1 reveals the demographic information of respondents in which majority were (67.2%) male and the remaining 32.8% were female. This indicated that male gender dominates the faculties in TVET institutions. Correspondingly, a similar trend was also reported in a TVET Statistic of Bhutan (2020) that over 70% of 185 TVET regular staff were males, indicating the requirement for policy intervention to increase the number of female trainers to promote gender equity.

Table 1: Personal Information - Gender

Personal information – gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	39	67.2	67.2	67.2
Female	19	32.8	32.8	100.0
Total	58	100.0	100.0	

4.2 Employment status

The employment status of the participants as well-indicated that most of the respondents (82.8%) were trainers while the

minority of 10.3 % and 6.9% were management and administrative staff, respectively, that composites the faculties in the institute, as shown in table 2.

Table 2: Personal Information – Employment Status

Personal information – Employment Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Trainer	48	82.8	82.8	82.8
	Management	6	10.3	10.3	93.1
	Others	4	6.9	6.9	100.0
	Total	58	100.0	100.0	

4.3. Qualification

As presented in table 3, the data shows that 60.3% of the participants possessed diploma – the minimum qualification required to teach NC level as per the Bhutan Vocational Qualification Framework (BVQF) and less than 19% had

bachelor's degree. The 5.2% with a master degree were those in the management category as reported in A TVET Statistics of Bhutan, 2020. A similar stance was reported that out of 185 TVET trainers recorded in 2019, 66.5% of them were with diplomas and 24.3% had a bachelor's degree.

Table 3: Personal Information - Qualification

Personal information – qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Master	3	5.2	5.2	5.2
	Degree	11	19.0	19.0	24.1
	Diploma	35	60.3	60.3	84.5
	certificate	9	15.5	15.5	100.0
	Total	58	100.0	100.0	

4.4 No. of years in the service

The table below (Table 4) revealed an experience of staff either in TVET or in the civil service in which 43.1% fall within 0-5 years in the service, 8.6% in 6-10, 25.9% in 11-15 and 22.4% fell within 16 years above. It is of the view that more the number of years in the service more experienced he

or she become with corresponding frequency of industrial attachment opportunity availed. We can infer that lesser the number of years in the service, lesser experienced a staff is in delivery of the program which reaffirmed that the experience gained is directly proportional to the number of industrial attachment programme availed by a staff.

Table 4: Personal Information – No. of years in the service

Personal information- No. of years in service

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0-5 years	25	43.1	43.1	43.1
6-10 years	5	8.6	8.6	51.7
11-15 years	15	25.9	25.9	77.6
16 and above	13	22.4	22.4	100.0
Total	58	100.0	100.0	

4.5 Questions analysis

The five points Likert Scale was considered with an interval scale of 1 to 1.8 strongly disagree, 1.81 to 2.60 disagree, 2.61 to 3.40 neutral, 2.41 to 4.20 agree and 4.21 to 5 strongly agree.

The resultant mean rating for each item was also computed. Thereafter, the computed mean ratings were compared with the theoretical mean rating (assuming a normal distribution of responses) of 2.50 to determine the attainment of the aspect of the program objective, the usefulness of the program, adequacy of skills acquired, organizational issues, challenges of the program and the strategies for improvement aspect of the program depicted by the questionnaire item.

A similar value had been considered for the other sections. As such the research findings are presented into six sections according to the six research questions posed above.

4.5.1 Research Question *Do the current practices of attachment fulfil the objectives of the program?*

The mean rating of each items in a section and the corresponding resultant mean rating was computed. The computed means were then compared with the theoretical mean rating (assuming a normal distribution of responses) of 2.50 to determine whether the objectives had been achieved or not. All the six items relating to the attainment of the program objectives had mean ratings and resultant mean ratings that far exceeded the theoretical mean (Table 5).

As indicated in table 5, the program objective of developing a positive attitude towards work had the highest resultant mean rating of 4.28. The lowest resultant mean rating of 3.78 was for the faculty to apply and sharpen old manipulative skills already acquired in their area of study. The results of the study suggest faculties of the automobile institution rated highly

elements of the program objectives indicating satisfactory attainment of the program objectives. Thus, all three stakeholders felt that the program had achieved its set objectives. The findings are similar to those of Aleisa and Alabdulahfez (2002) who found that the cooperative education (attachment program) at Riyadh College of Technology had achieved its aims. In the present study, the objective nurture linkages with industry for trainee's industrial attachment programme (ATP) appears to have been attained. Similarly, Aleisa et al (2002) reported that the program at Riyadh College of Technology-enabled students to acquire a positive attitude towards work. They also found that the program provided students with the needed workplace skills similar to the findings of the present study.

The reported attainment of the objective of acquiring new manipulative practical skills during the industrial attachment was in agreement with the observation of Ryan and Imel (1996) that industrial attachment was one of the useful methods of imparting knowledge to students. This finding could be attributed to the fact that the attachment program afforded faculty the unique opportunity to engage in practical work of six hours a day on a five-day week basis on some specialized equipment and machinery which are not available in their institute's workshops. The above findings compared favorably with the finding of the present study that industrial attachment enabled faculty on attachment to apply and sharpen old manipulative skills already acquired in their areas of study. The objective of getting faculty acquainted with how new technologies, machines and equipment function also appears to have been attained. Schools and individuals find it very difficult to get specialized equipment to run quality education programs (Finch et al., 1999). It is in this light that

the attainment of the objective of getting automobile faculties acquainted with new technologies is very refreshing.

The finding that faculties had an opportunity to apply theories and principles learnt in their areas of study is supported by Matamande & et al (2012), Further, in the evaluation of a cooperative education program for science students at

Southern Cross University, Cullen (2005) established that students were able to use skills learned or acquired from their study, similar to the present findings. Furco (1996) also observed that industrial attachment provides "learning opportunities beyond the classroom walls" (p. 9) and that it enables students to see, feel and work with tools and machines to give practical meaning to what they have learnt in theory.

Table 5: Attainment of programme objectives

Descriptive statistics					
Statement	N	Minimum	Maximum	Mean	Std. Deviation
1. Acquisition of new manipulative practical skills during the industrial attachment period.	58	1	5	3.93	.792
2. Nurture linkages with industry for trainee's industrial attachment (ATP).	58	2	5	4.19	.661
3. The program enables faculty to apply and sharpen old manipulative skills already acquired in their area of study.	58	0	5	3.78	.859
4. Acquaintance of how new technologies, machine and equipment heard of and read about in curriculum function.	58	2	5	3.83	.729
5. Acquire interpersonal skills that promote personal growth and development.	58	0	5	3.97	.973
6. Develop positive attitude towards work.	58	3	5	4.28	.615
Valid N (list wise)	58				

4.5.2 Question: How do the faculties of automobile institutes rate the usefulness of the industrial attachment program?

The results which appeared in Table 6 indicated that all the six items relating to the usefulness of the program had mean ratings that far exceeded the theoretical mean. As indicated in Table 9, the 'opportunity to interact and share experiences and problems with industry staff' had the highest resultant mean rating of 4.12. The lowest resultant mean rating of 3.19 related to the 'attachment is a sort of break with financial incentives for staff'. The results of the study thus showed that faculties rated highly elements of the usefulness of the program.

The results of the study are consistent with the findings of Bailey and Merritt (1997) who reported that industrial

attachment increases the learning power of students by enabling them to get job experiences and reinforce academic instruction through the use of applied learning opportunities. The finding that students had the opportunity to apply theories and principles learnt in their areas of study is supported by Cullen (2005).

Further, the result of the study also supports the findings of Cort & et al., (2004) that industrial attachments allow trainees/faculties to update their skills and knowledge in their trades, exposes them to new methods and materials, gives them a realistic and holistic impression of their trades and brings elements of realism into their training.

Table 6: Usefulness of the Industrial attachment

Descriptive statistics					
Statement	N	Minimum	Maximum	Mean	Std. Deviation
1. Opportunity to apply theories and principles learnt in one's area of study at the institute	58	2	5	4.02	.577
2. Opportunity to understand many things learnt in abstract in one's area of study at the institute	58	0	5	3.97	.700
3. Opportunity to interact and share experiences and problems with industry staff.	58	2	5	4.12	.727
4. Opportunity to know the contribution of industry to national development.	58	2	5	3.90	.693
5. Obtain new learning experience related to trade and beyond.	58	2	5	4.09	.571
6. Attachment is a sort of break with financial incentives for staff.	58	0	5	3.19	1.162
Valid N (list wise)	58				

4.5.3 Question: How adequate is the knowledge and the skills acquired during an attachment?

The results which appeared in table 7 indicated that all the items concerning the adequacy of the knowledge and skills acquired during an attachment exceeded the normal distribution mean (2.50) agreeing all the statements.

As indicated in Table 7, 'the current practices of attachment modality should be continued' had the highest rating of 3.84 and the lowest rating of 2.93 was against the two weeks' attachment program is adequate. Although, the mean rating for the adequacy of two weeks' attachment was slightly higher than the normal distribution indicating that the period for the attachment was not adequate for many of the faculty members. The duration of the attachment for faculties differs from institute to institute ranging from two to three weeks depending upon the availability of budget and the time of individual faculty. Considering the above challenges, most of the faculties were sent on attachment for two weeks which they found very short as reflected in the table.

The duration of attachment being very less was supported by open-ended question responses asked in the questionnaire. Most of the respondents suggested that the duration of the attachment may increase to three to four weeks instead of two to acquire more skills in related trade. The winter and summer vacations could be the option for meaningful attachment. To strengthen this program in TTIs and IZCs this study revealed that there should be HRD master plan which covers duration for IAP, Institute – Industry roles and monitoring and evaluation. The absence of such a policy undermines the institute level professional development activity such as industrial attachment as there are no standard norms. A similar finding was also reflected in TVET Blueprint (2016) which acknowledged that a HRD master plan for the TVET sector will be developed to determine initial training of instructors entering the profession, and professional development to those already in the profession.

Table 7: Adequacy of the knowledge and skills acquired

Descriptive statistics					
Statement	N	Minimum	Maximum	Mean	Std. Deviation
E.1: Workplace supervisors are the right people to assess faculty on the attachment program	58	1	5	3.78	.773
E.2: The competencies on which faculty on attachment are assessed on the program are appropriate.	58	2	5	3.62	.721
E.3: The two weeks' attachment program is adequate.	58	1	5	2.93	1.183
E.4: There is adequate monitoring by the management during attachment.	58	0	5	3.22	1.140
E.5: The current practices of attachment modality should be continued.	58	1	5	3.84	.988
E.6: The management addressed the issue during attachment instantly.	58	2	5	3.59	.750
E.7: The management provide equal opportunities irrespective of the trades and position.	58	1	5	3.81	.868
Valid N (list wise)	58				

4.5.4 Question: What challenges do faculty face during industrial attachment?

The industrial attachment programme with its benefits highlighted above had also challenges which cannot be left out for effective assessment concerning the area under study. Thus, the mean rating of each of the six items that answered the challenges of industrial attachment and the corresponding resultant mean rating was computed. The computed means were then compared with the theoretical mean rating (assuming a normal distribution of responses) of 2.50 to determine the challenges of the program. The results which appeared in table 8 indicated that all the six items relating to the challenges about the program had mean ratings that far exceeded the theoretical mean. As indicated in Table 8, 'attachments were made to relevant industries and workshops' had the highest resultant mean rating of 3.90. The results of the study thus showed that faculties rated highly elements of the challenges of the program listed in the table.

The mean rating of the statement 'faculty on attachment do not have free access to machines and equipment' was 3.34 rated highly on agreement indicated that faculties on attachment

were not given free access to new equipment to work on. The issue of faculties not having free access to machines and equipment to work with justifies the assertion of Olugbenga (2009), who argued that for effective training to take place and to create skills that were relevant to the future during industrial attachment, institutions of training must update technology. However, the TTIs lacked this and with the technological environment changing constantly making it difficult for institutions of higher learning to keep abreast with the changes. This was further supported by the findings of MoLHR (2020) that graduates had rated the quality of training tools and equipment need some improvement. However, the shortage of fund to update tools and equipment in consonance with changing technology had remained a major challenge.

It also revealed by the data that technicians and the supervisors of the workshops/industries were suspicious of the knowledge and skills of our staff making them do work not related to their field of study. A similar case was also reported in African countries that students end up doing menial jobs and never do the essentials of the job as indicated by Dodge and McKeough (2003).

Table 8: Challenges of the Attachment Programme

Descriptive statistics					
Statement	N	Minimum	Maximum	Mean	Std. Deviation
F.1: Faculty on attachment do not have free access to machines and equipment to work with.	58	1	5	3.34	.965
F.2: Faculty on attachment spends a lot of time in finding attachment placement.	58	0	5	3.00	1.076
F.3: Firms/industries are suspicious of the faculty's prior knowledge.	58	0	5	3.10	1.021
F.4: Faculty are exposed to appropriate skills, task and jobs relating to their profession during attachment.	58	1	5	3.78	.773
F.5: Attachments were made to relevant industries and workshops.	58	0	5	3.90	.986
F.6: Lack of financial support affects the program implementation.	58	0	5	3.53	1.112
Valid N (list wise)	58				

4.5.5 Question: How are we going to make this industrial attachment program more effective and efficient? (Strategies)

Findings from table 9 disclosed that the faculties agreed with all the eight strategies that were proposed to improve the effectiveness of the industrial attachment programme with the highest mean rating of 4.19 and the lowest rating of 3.71. Creation of strong linkages with industries is also viewed as a key strategy. Meyer (2008) viewed lack of linkages resulting in individual approaches leading to a lack of adequate funding, knowledge and basic resources for IAP enhancement. Creation of strong linkages will promote the participation of faculties, institutions, host organisations and other stakeholders in a more meaningful and relevant manner. This helps to develop a sense of belonging for a common purpose in managing the IAP for automobile institutions in Bhutan.

Meanwhile, the results also indicated that there should be early supervision from the management while workplace supervisors were encouraged to make the supervision constantly to achieve the objectives as supported by Baechele and Earle (2008) who argued that effective attachment will only be achieved if there is systemic and constant monitoring of the program from all the stakeholders. Frequent supervision visits to faculty on attachment by the training institutions were

indicated to improve the industrial attachment programme in many countries. This indicated that they are part and parcel in getting instant feedback (Donkor et al., 2009).

Likewise, industrial attachment is an indispensable component of developing faculties' competences in their areas of specialization and the process can only achieve desired results if they were placed under the supervision of experienced and seasoned personnel (Arikewuyo, 1999). The data also indicated the need for trained and competent mentors and assessors with a mean rating of 3.83. Training of counterpart (mentors) will allow identification of improvements needed and feedback to the system. Mentors and assessors, therefore, need training and support in how to use assessment tools and mentoring strategies to promote meaningful learning through industrial attachment. This will leave each part benefiting accordingly in the system, mentors receiving the respect they deserve commanded by their effectiveness in executing their mentorship role.

From the responses in Table 9, one could therefore conclude that if the stated strategies are vigorously pursued, there is no doubt that the industrial training programme would be effective and produce the expected faculties who may be capable of theorizing practice and putting theory into practice to develop expert knowledge.

Table 9: Strategies for improvement

Descriptive statistics					
Statement	N	Minimum	Maximum	Mean	Std. Deviation
G.1: Improve the linkages between institute and industries	58	3	5	4.19	.606
G.2: There should be an early follow-up so that supervisor can make their input.	58	2	5	4.07	.617
G.3: Frequent supervision from workplace supervisors should be introduced.	58	1	5	3.71	.955
G.4: Feedback from the industries/firms should be discussed with faculty.	58	2	5	4.16	.616
G.5: There should be post attachment seminar for faculty and supervisors.	58	1	5	3.86	.888
G.6: Workplace supervisors should be trained on how to assess faculty on attachment.	58	2	5	3.83	.798
G.7: There should be a workshop for all stakeholders involved in the programme to reach a common consensus.	58	2	5	3.71	.726
G.8: A robust monitoring mechanism should be instituted by both the parties.	58	0	5	3.71	.937
Valid N (listwise)	58				

V. CONCLUSION AND RECOMMENDATION

The paper aimed to establish whether the industrial attachment programme offered by three automobile institutes to their faculty was helpful in their professional development. The questionnaires were used to determine the fulfilment of the program objectives, adequacy of knowledge and skills gained, the usefulness of the program, challenges faced by the faculties and the strategies for improvement. The study also attempted to establish the general feelings of faculties about the attachment and also the researcher sought to get more insight into the attachment by getting feedback through recommendations from respondents which was also the part of the questionnaire.

The industrial attachment was viewed as an important strategy to expose faculties to real work life and to equip them with the necessary skills so that they would not only lead to being a better TVET trainer, but also who can ensure a quality TVET in Bhutan. Based on the findings of the study it can be concluded that TTIs faculties were allowed to relate theory into practice to prepare their student trainees for success in further education and the workplace. Studies on industrial attachment in a Bhutanese TVET setting were not much

reported. The present study thus adds a different dimension to the literature on work-integrated learning.

From the findings of the study, it could be concluded that the faculties of the three automobile institutes expressed high satisfaction on the attainment of program objectives and the usefulness of the program. The attained objectives include acquisition of new manipulative practical skills, nurtures linkages with industry, getting students acquainted with technologies new to them and develop a positive attitude towards work. The program's usefulness lies in the opportunity to apply theory learnt into practices, opportunity to interact and share experiences and problems with industry staff and obtain new learning experience of the trade and beyond.

The study also concluded that the industrial attachment program (IAP) for faculty had expressed high satisfaction on the adequacy of knowledge and skills during the program. However, the mean rating for the duration of attachment was the lowest with 2.93 although slightly above the resultant mean indicating the duration is too short to get the required skills. The responses in the open-ended question to provide suggestion also had comments on the extension of duration program from three to four weeks.

The IAP had been seen to have some challenges experienced by faculties despite the above advantages and these had to be addressed for its successful implementation. For effective and efficient management of the IAP, strategies for improving the programme were also highlighted where the governing agencies have to come up with clear policies, trained mentors and assessors, monitoring and evaluation systems, timing and time frame for the IAP. The study, therefore, recommends the following:

1. Need to develop a HRD master plan for trainer's professional development by the governing agency.
2. The follow-up (supervision) must be done early so that supervisors can make suggestions to the management early.
3. Increased duration of attachment program to four weeks
4. Strengthen industry – institution linkages with the training of mentor by the host organization
5. Send faculty to relevant industries especially to the dealers for the attachment programme.
6. Ministry to provide adequate budget for the successful implementation of the programme.
7. With TVET gaining momentum in the terms of employment and linkage creation, such programmes may need further up-gradation.

However, further studies on the role of industries have to be done for stronger linkages and wholesome training and meaningful assessment.

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The Reform and Practice of Club Management Teaching in the Context of Innovation and Entrepreneurship

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Abstract—The purpose of this study is to analyze the teaching reform and practice of sports and leisure club management under the social background of innovation and entrepreneurship. In order to achieve the research purpose, this study takes the university students who choose club management as the object, and integrates the Innovation and Entrepreneurship Program into the course learning. In the completion of the course, this study interviews students to understand the implementation effect. After analysis, this study found that: (1) The implementation of innovation and entrepreneurship team model in the curriculum can help to enhance students' learning motivation. (2) Students have a high interest in learning. (3) Students believe that the innovation and entrepreneurship course will help them in their future employability. Based on the above results, this study provides relevant suggestions for the implementation of sports and leisure club curriculum.

Keywords—teaching reform, club, management, innovation, entrepreneurship.

I. INTRODUCTION

In recent years, with the change of social environment, people's participation and concern for sports are increasing rapidly, which also makes the sports industry develop rapidly. In particular, the number of domestic sports clubs continues to growing because of the entry of foreign businessmen. In addition, students majoring in leisure sports choose to start their own businesses after graduation. Most of them belong to small fitness and fitness studios. However, the entrepreneurial process is full of uncertainty and high risk, entrepreneurs need to have professional knowledge and skills related to entrepreneurship, in order to improve the success rate. With the popularity of sports and leisure in China, sports and leisure professional courses encourage students to start their own sports club business after graduation, and make all innovations in products, so as to achieve the goal of sustainable development of enterprises. As club operation and management is a very important course in leisure sports related departments, it is necessary to integrate innovation and entrepreneurship into the teaching content and process in addition to teaching the necessary knowledge and skills. Therefore, under the social and economic background of innovation and innovation, how

to learn professional ability from the curriculum for leisure sports majors is a problem that teachers should think about. The purpose of this paper, mainly from the club category, discusses the professional ability of different club managers, and then analyzes the implementation strategy of the course and the effect of the implementation. It is hoped that the research results can provide reference for leisure sports departments in the implementation of club operation and management.

II. CATEGORY OF CLUBS

Before planning students' innovation and entrepreneurship ability, we should first understand the category of clubs, which is conducive to the planning and implementation of the curriculum. Wu (2002) pointed out that sports service is the main product to satisfy the needs of consumers in leisure activities through the provision of sports equipment and professional guidance personnel, and it is called fitness club as an enterprise organization type operator [1].

In terms of club types, Chiang (2000) divided fitness clubs into four categories: fitness clubs attached to tourist hotels, fitness clubs attached to large enterprises, fitness clubs attached to buildings or communities, and professional

fitness centers [2]: (1) Fitness clubs in Tourist Hotels: they mainly provide room fitness services, and most of them are open to outside members. Their investment is huge and their equipment is luxurious, but their membership fees are high, so their motivation to participate is not strong. (2) Fitness clubs affiliated to large enterprises: they are set up in large enterprises or factories. In terms of equipment scale, they are small and medium-sized. They are only for employees or their dependents to engage in fitness activities. They are not open to the public. (3) Fitness clubs attached to residential buildings or communities: most of these fitness clubs are invested by construction companies and set up in suburban large residential buildings or apartment buildings. They are only for community residents, but some of them are still open to the public. (4) Professional fitness center: the biggest difference of this type of fitness club lies in its emphasis on specialty. Whether it is the provision of internal equipment or various services, it is based on specialty.

Gao Junxiong (1997) divided the club into [3]: (1) Independent: the club is the main business of the enterprise. (2) Subsidiary type: sports health club affiliated to some business projects of large enterprises. (3) Business social club: it has strong social and business functions, mostly located near the financial business circle, and mainly attracts business people. (4) Parent child club: it is specially designed for working families in metropolises. It combines the functions of traditional parenting and talent class, and emphasizes the use of family clubs. (5) Fitness club: emphasis on physical exercise and maintenance, low fees, can attract the general public to use.

According to Lin (2006), clubs can be divided into the following five types according to their business types [4]: (1) Professional fitness based fitness club, this kind of club to professional fitness to enhance the national body energy as the main demand. (2) The fitness clubs mainly focus on business and social activities, which claim to have the identity of business and social activities. Most of the places are in the business district. (3) The main characteristics of health clubs are to improve the quality of life of community residents. (4) The main characteristics of this kind of club are that the venue is large, the location is far away from the metropolitan area, and the facilities are very diversified. (5) Special theme club, this kind of club takes the specific theme as the demand, the facilities under the theme account for most of the club area, so other general sports fitness facilities become supporting roles in this type of club.

From the above analysis, in fact, sports clubs can be divided into public and private, but at present the market is dominated by commercial and profitable sports clubs. In terms of operating areas, it can be divided into urban,

suburban and rural diversified clubs. All in all, the main purpose of sports clubs is to provide a good sports place for people's health, leisure and social interaction.

III. CATEGORY OF CLUBS

I. THE CONCEPT ABILITY OF INNOVATION AND ENTREPRENEURSHIP

Innovation is the process of realizing a new idea, while entrepreneurship is the process of realizing this new idea. Innovation is the essential spirit of entrepreneurship, and the two are inseparable. Menzies and paradi (2003) pointed out that the characteristics, abilities and technologies of entrepreneurs can be achieved through training and education [5].

Dolinger (2003) pointed out that the definition of entrepreneurship is "a new economic organization created under the environment of risk and uncertainty", and entrepreneurship can be divided into three main characteristics: creativity and innovation, the combination of resources and the establishment of economic organizations, and the growth opportunities and capabilities under the environment of risk and uncertainty [6].

Liu and Xie (2006) believe that entrepreneurship should be a combination of labor, knowledge, technology, management, capital and other factors of production, in the case of risk and uncertainty, to carry out innovation and creation activities, through the exploration, evaluation and use of entrepreneurial opportunities, to establish new economic organizations, and to bring profits to entrepreneurs [7].

Robinson and Blenker (2014) proposed that entrepreneurship education is often related to three ways. The first is about entrepreneurship. In this course, learners will be introduced to the history and theory of entrepreneurship. The second is for entrepreneurship, which is to teach learners the tools and skills needed for entrepreneurship, such as plan writing, financial management and so on. The third is through entrepreneurship, which allows students to reflect on the resources, advantages, contacts and other conditions they have at this stage, encourage them to use these resources for entrepreneurship implementation, get out of the safe environment (school / classroom), and experiment with entrepreneurial ideas [8].

Li (2016) pointed out that entrepreneurs need to have at least the following ten abilities: strong desire, tolerance beyond imagination, broad vision, good at grasping trends and understanding human relations, business sensitivity, networking, strategy, courage, desire to share with others, and the ability of self-reflection [9].

According to Ardichvili, Cardozo and Ray (2003), entrepreneurial ability refers to the ability to grasp and utilize the opportunities caused by the external environment, and defines entrepreneurial ability as "the ability to explore and grasp the opportunities, that is, the entrepreneur must grasp the opportunities of the external environment and make good use of the opportunities to create value for money" [10].

Yang (2010) divided entrepreneurial ability into professional ability, innovation ability and comprehensive ability: (1) Professional ability: it is the primary condition of entrepreneurship, mainly showing the necessary working ability of professional post, the ability of social cognition and the application of legal rules, the ability to accept and understand new technology, etc. (2) Innovation ability: it is the basis of entrepreneurship. It refers to the working methods needed by entrepreneurs in the process of entrepreneurship. It mainly presents the ability to receive and process information, track market orientation, analyze and make decisions, associate transfer and creativity, determine the layout of enterprises, explore talents, finance, control and adjust, etc. (3) Comprehensive ability: the core ability of entrepreneurship. It refers to the behavior ability needed in the process of entrepreneurship, mainly showing interpersonal skills, judgment ability, corporate image planning ability, cooperation ability, self-discipline ability, ability to adapt to changes and bear setbacks [11].

IV. ANALYSIS OF PROFESSIONAL ABILITY OF CLUB MANAGERS AND COACHES

The vigorous development of sports, health and leisure industry has also created an increasing demand for industry personnel, which makes the professional ability of sports instructors more and more important in the industry oriented to meet the needs of customers. Competency was defined by 'the skills, knowledge, behaviours, and attitudes required to perform a role effectively' [12]. Wickramasinghe and Zoyza (2009) point out that competency as a person's behavior in a specific job, organization or culture [13], and Winterton (2009) added the competency to demonstrate performance according to the standards required of his/her work context [14]. Review the past research on the professional ability of sports clubs, Ye (2012) pointed out that the construction of professional ability indicators of community sports instructors can be divided into: 1. Professional knowledge: including sports professional knowledge, general knowledge and health management knowledge; 2. Professional skills: including sports professional knowledge, general knowledge and health management knowledge. And professional attitude includes 11 items

and 69 indicators of interpersonal communication, self-growth and personality traits [15].

Xiao (2016) studied the professional development of sports instructors for the elderly. The results showed that sports instructors should have the personality traits of empathy, patience, love, intimacy, sense of humor, encouragement, listening and sharing. Sports instructors for the elderly have professional knowledge of sports. According to their individual differences, they adopt customized sports design, and can timely encourage and praise to enhance the self-confidence of the elderly. The self-employed sports instructors of the elderly are faced with the dilemma of the unstable source of the elderly. They adopt the coping strategies of reducing the hour fee and increasing the characteristic courses [16].

Huang (2017) studied the professional functions of sports center managers. The results showed that the responsibilities and tasks related to the operation foundation construction of sports center included 19 knowledge, 17 skills and 10 attitudes, while the responsibilities and tasks related to the daily operation control of sports center included 29 knowledge, 25 skills and 14 attitudes. Among them, the content of the daily operation control of the sports center is changeable. Managers need to clearly understand the strategies and plans of the top management of the organization, and be familiar with the abilities required in the work tasks, in order to effectively plan, supervise and evaluate [17].

Qiu (2018) found that the professional ability of physical fitness coach can be divided into: professional knowledge (sports injury protection, physical fitness teaching, nutrition and weight control, physical anatomy and biomechanics, professional license related to sports guidance, sports physiology and psychology, sports venues and equipment planning, sports prescription design). Professional skills (interaction with students of different ages, operation of sports venues and equipment, emergency response in case of sports injuries and accidents, understanding of action guidance of special sports, planning sports courses, personally demonstrating actions, improving students' learning motivation, and managing sports associations). Professional attitude (take the initiative to care for students, abide by workplace ethics and professional ethics, prepare teaching aids before class, check whether they are perfect to ensure students' safety in class, enjoy communicating with students, evaluate and adjust students' stage sports goals, study and pay attention to professional growth, innovate and improve teaching, and adhere to the principle of being conscientious and responsible) [18].

Chen (2018) pointed out that the professional functions of sports center managers need to have a sports specialty (such as tennis) and obtain any license. Have the ability to

test the physical fitness of employees. Have the ability of sports injury prevention and first aid. Have the ability of sports guidance and demonstration. Have the ability of activity curriculum design and planning. Ability to manage sports facilities. Have the ability of sports professional knowledge. Ability to communicate in Mandarin, Taiwanese, English and 2 foreign languages. Have computer data processing ability. Patience, confidence, enthusiasm and initiative. Good interpersonal interaction and empathy [19].

Yang (2019) studied the analysis of professional competence of employees in the Citizen Sport Center. The results showed that among the professional competence, the top five are emergency response ability, customer complaint handling ability, team communication and coordination ability, deep sense of responsibility and good pressure resistance. The top five are fluent foreign language ability, relevant license and rest ability. The most neglected professional skills are leisure law related knowledge, excellent plan writing ability and sports industry marketing knowledge. The professional competence of sports instructors for the elderly includes "sports safety", "sports guidance", "communication ability", "curriculum design" and "sports skills". Except for "sports safety", some sports instructors for the elderly have no professional training [20].

V. INNOVATION AND ENTREPRENEURSHIP CURRICULUM IMPLEMENTATION

The implementation method of this course is to integrate the sub course of "innovation and entrepreneurship" into the "sports club operation and management" (2 credits, 18 weeks) course of a university. The implementation method of this course is to integrate the sub course of "innovation and entrepreneurship" into the "sports club operation and management" (2 credits, 18 weeks) course of a university. The purpose and method are as follows:

1. Course name: Operation and Management of Sport Club (Innovation and Entrepreneurship Training Course)
2. Purpose: With entrepreneurship as the main axis, through training and concept book publishing, students' enthusiasm for entrepreneurship will be stimulated. Market demand analysis will be added to enable students to understand the future development and potential of related industries. In this process, students will learn to combine theory with practice.
3. Implementation method: (1) The entrepreneurial team is composed of 3-5 students to participate in the course. (2) Each group of students choose the sports club to start a business and present the business plan.

As students do not know much about the market situation, teachers should not only explain each course unit, but also understand whether the business plan is a combination of ideal and reality. Students are usually required to achieve the following four points:

- (1) Whether entrepreneurs are fully involved in the planning of new businesses.
- (2) The entrepreneur's mastery of the realization of new business ideas.
- (3) Entrepreneurs may face various problems in the process of new business development.
- (4) Whether entrepreneurs know how to attract investors' attention.

In addition, in terms of business plan, it is basically necessary to provide students with writing format, so that it can be carried out effectively. In the first week of school, teachers should briefly introduce the contents and key points of the business plan. The contents of the entrepreneurial prospectus are as follows:

- (1) Abstract: the content should include the company's profile, entrepreneurial motivation, and business philosophy.
- (2) Business opportunities and profits.
- (3) Industry, product or service introduction: product concept, performance characteristics, product introduction, market competitiveness, research and development process, new product planning and cost analysis, market prospect prediction, brand and patent, etc.
- (4) Market analysis and marketing: target market customers, market trend analysis, competition analysis, competitive advantage, market sales, etc.
- (5) Entrepreneurial team: team members' academic experience, industrial experience and professional background, successful business experience and management ability, organizational structure of the enterprise, and human resource development plan (talent demand plan of each department, salary structure of the company, employee dividend and stock right, recruitment and training plan).
- (6) Financial prediction.
- (7) Capital structure: the company's current and future fund raising and use, the company's financing methods, and the capital structure before and after financing.
- (8) Risk analysis: describe in detail the risks that may be encountered in the process of project implementation, and put forward effective risk control and prevention measures.

(9) Withdraw from the market mechanism.

As for the implementation of the course, in each class, students from different groups will give a 15-minute lecture on the stage, followed by a 5-minute discussion and question. Of course, the practical experience of the teacher is very important. Since it is necessary to give timely feedback to the students, the teacher should strengthen his practical experience before class. In addition, before the implementation of the course, the operators of sports and leisure clubs should be employed as far as possible, and common teaching methods should be adopted to increase students' practical experience. If it is not possible to employ teachers from the industry for this course due to the funding of the school or other problems, the industry can also be invited to give a speech at the school a few weeks before the course.

VI. CONCLUSION AND SUGGESTION

6.1 Conclusion

After 18 weeks the implementation of the course, the researchers adopted an open-ended syllabus to understand the students' learning effectiveness in an anonymous way. Therefore, combined with the purpose of this study, the following conclusions are summarized:

- (1) In the management courses of leisure major, most of them repeat too much. However, the implementation of innovation and entrepreneurship team model in the curriculum can help students experience the combination of theory and practice, and help to improve students' learning motivation and professional ability.
- (2) Students have a high interest in learning, and think that in the process of learning, students have a deeper understanding of the operation and management of sports and leisure clubs, as well as practical operation ability.
- (3) The students think that through the simulated entrepreneurial process, they can understand the professional abilities needed in the whole entrepreneurial process and the work processes to be carried out, which is helpful to their employability in sports and leisure clubs in the future.

6.2 Suggestion

The teaching mode of this research can provide specific reference for college teachers in the implementation of sports and leisure club curriculum. In the way of implementation, teachers can implement the curriculum in one semester or one academic year in a segmented or centralized way. In addition, the objectives and methods of curriculum implementation proposed in this study are set according to the general situation of curriculum

implementation. In fact, teachers may face different problems in the teaching process, such as the characteristics of students or classes, departments, the teaching environment and so on. Therefore, special attention should be paid to and timely adjustments should be made to achieve the purpose of teaching.

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The study on the effectiveness of soft skill subjects in Public TVET Institutes in Bhutan

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Abstract— *The purpose of this study is to find out the effectiveness of soft skills subjects being taught in Public TVET Institute in Bhutan. The study was conducted using a mixed-mode research approach. A total of 30 TVET graduates were involved as respondents in collecting data for this research. The primary data for the study were collected through structured questions and informal interviews from the respondents. The data were analyzed through the process of thematic data analysis.*

The findings of this study revealed that the effectiveness of soft skill subjects taught and learned in the public Institutes was mostly effective. The graduates who got enrolled in Institute after their 12th standard have different views on its effectiveness than the graduates who got enrolled in the same Institute after the 10th standard. The study concluded that a technical skill has the power to facilitate gainful employment, but soft skill can magically sustain them in the organization.

Keywords— *Soft skills, National Certificates, Investments, IR 4.0, Gainful employment, Socio-economic.*

I. INTRODUCTION

1.1 Background/Context

The year was 1960. It was the turning point in the history of developmental activities scheduled to take place in Bhutan. The First Five Year Plan (FYP) was scheduled to commence from 1961. Bhutan had no choice but to depend heavily on the expatriate workforce to execute planned activities. The need of the hour to establish a Centre that offers vocational training to solve the much needed trained manpower in the development process was felt like never before.

Ultimately, under the direct command of the then visionary King, popularly known in Bhutanese history as the “Father of Modern Bhutan” the first Technical School was established at Rinchening in 1965. It was later renamed as Royal Technical Institute (RTI).

The technical graduates of RTI to some extent addressed the much-needed skilled manpower to assist in the initial developmental activities. In 1974, the Royal Bhutan Polytechnic, later known as Jigme Namgyal Polytechnic in the eastern region was established to offer diploma-level

engineering courses. Accordingly, the two institutes have purportedly produced substantial numbers of technical personnel in various engineering fields making considerable contributions to nation-building.

Despite considerable investments made in the TVET sector over the past several decades, it still faces significant challenges in terms of access, relevance, and quality of skills in the wake of a rapid socio-economic transformation of the country. It is still a less preferred option for most youth in general while at the same time, TVET graduates continue to face difficulty in upgrading their educational qualification and career advancement. These factors have further aggravated the problem of the weak TVET system. TVET in Bhutan had always been looked down upon even to this day by society and parents alike, projecting a poor image towards the so-called “blue-collar job” and tarnishing the very essence of dignity of labour. There is a negative stigma attached to TVET. People hold the view that TVET is good for students who do not qualify for admission into the university and meant for lower-income groups. TVET is never the second-best choice. It is of course undeniably a

universal phenomenon that TVET programs are poorly perceived, especially so in the developing world.

Despite all odds, the TVET system in Bhutan has come a long way. Currently, there are six Technical Training Institutes (TTIs) and two Institutes of Zorig Chusum (IZCs). Around 797 trainees are undergoing training in various Public Institutes. The minimum entry qualification for the courses offered in the Institute is class X certificate holders. However, the majority of the trainees are class XII. Of the total 153 trainers, 111 have diploma qualifications, 32 have a Degree Qualification, and 10 trainers with a National Certificate. The head of all Public Institutes have a Master's Degree Qualification.

The persistent issue raised time and again by society with regard to the TVET system in Bhutan had provoked the researcher to undertake this study particularly on the effectiveness of soft skill being imparted to the TVET trainees.

1.2 Problem Statement

The TVET system in Bhutan faces significant quality issues and is often perceived negatively by employers and general public. A number of factors contribute to this situation, some of which include poor quality TVET graduates, trainers, and an unresponsive curriculum, to name a few. The introduction of subjects like English, Mathematics, Dzongkha (National Language), and Information Technology (IT) in public TVET Institutes are aimed to address the shortcoming, particularly in the soft skill aspect.

Soft skills can be diverse and contextualized to the unique nature of training and the overall labour market situation. UNESCO (IBE 2013) defines soft skills as "A set of intangible personal qualities, traits, attributes, habits, and attitudes that can be used in many different types of jobs." EU Commission (Skills Panorama, 2015) defines it as "Skills that are cross-cutting across jobs (Job-specific skills) and sectors (Sector-specific jobs) and relate to personal competences (confidence, discipline, self-management) and social competences (teamwork, communication, emotional intelligence)."

Career advisors and employers generally use the term 'soft skills' to describe not only the necessary and basic personal skills but also to describe social skills people must possess in order to execute most of the assigned jobs. Usually, soft skills are unique personal characteristics and skills each person possesses. Although these qualities have nothing to do with a person's knowledge of a particular trade or core skills, they have become a mandatory skill set for most

professional positions. Attitudes, personal habits, communication skills, and interpersonal behavior are important soft skills.

In Industrial Revolution (IR) 4.0, the global market is flooded with people who have acquired good educational knowledge and better work experience. As a result, employers are compelled to seek candidates who are not only well educated with good experience but also those with soft skills. Soft skills are what make all the difference.

1.3 Research Objectives

The broad objective of the study is to:

- 1.3.1 Assess the effectiveness of the soft skills programs in Public TVET Institute.
- 1.3.2 Assess the relevance of the existing soft skills programs in the Institute.
- 1.3.3 Suggest measures to make soft skills programs more effective.

1.4 Research Questions

The following research questions were addressed in this study:

- 1.4.1 How effective is the introduction of soft skill subjects like English, Mathematics, Dzongkha, and IT in TVET Institutes?
- 1.4.2 How is soft skills taught and learned in the Institute relevant in your daily life?
- 1.4.3 How can you make soft skills subjects more effective and meaningful?

II. LITERATURE REVIEW

Various authors have defined soft skills as personal characteristics such as work ethics, positive attitude, social grace, facility with language, friendliness, integrity, and the willingness to learn (Bancino & Zevalkink, 2007; Coll & Zegwaard, 2006; Hmelo-Silver, 2007; Lewis, 2007; Lorenz, 2005; Lucci, 2005). Soft skills typically complement a student's hard or technical skills.

According to (Bancino & Zevalkink, 2007), Soft skills are an integral part of careers in technology and engineering. Therefore, there is a need to include these skills in career and technical education program. Bancino and Zevalkink (2009) noted that: The more soft skills training can be integrated directly into technical training programs, the more successful the graduates will be in the increasingly demanding global economy. While some people consider soft skills as the intangibles, these skills are quickly becoming a requirement

that drives tangible and measurable increases in personal productivity and directly translates to sustainable competitive advantage in a global marketplace (p. 22).

Kemper (1999), Mc Murchie (1998), and Spencer further supported the above idea. Spencer (1993) suggested that superior performers are not distinguished by the technical skills that they possess but by the demonstration of behavioral skills. Hackett et al. (1985) identified a number of skills that facilitate coping with the social realities of work. Skills that Hackett et al. (1985) claim are of importance include the ability to communicate well, to relate effectively to others, to plan and manage the demands of one's job, to exercise leadership, and to cope with stress effectively. These skills are behavioral skills, that is, interpersonal skills, personal planning and organizational skills, team leadership, directiveness, and self-control. The sector perceives that employers want graduates that are 'well rounded' and that all competencies are essential and sought after.

According to Hodges & Burchell, (2003); in order to be useful in any organization, one must be willing to learn new skills to keep pace with what is now seen as a rapidly changing workplace. What was important yesterday is no longer important today and what is relevant today may be obsolete tomorrow. Therefore, persons who are reluctant to change according to the need of the hour will find it difficult to adapt to the new, ever-changing workplace and adopt new skills as employers continuously search for employees who are able and willing to pick up new skills quickly. Such an idea was mooted by Sweeny and Toomey (1997, p. 299), who noted that "employers are looking beyond content and focusing more on attributes and skills that will enable graduates to be adaptive, adaptable and transformative".

Lifelong learning has emerged as one of the keys to improving the quality of life in the 21st century. Initial education is no longer sufficient to enable people to benefit from new opportunities that advances in science and technology bring and other changes in the world of work. There is no doubt that continuing to learn is the key to securing employment and income stability. Higher levels of formal education and training lead to higher incomes and greater employability. Rates of return (RoR) studies have included both educational attainment and skills measures while taking account of other variables such as gender, occupation, work experience, and geographic location (OECD 2005, 2007). These studies show that the main reason that well-educated and trained individuals earn higher incomes is that they have higher knowledge and

skills levels, or put simply, higher qualifications are a proxy for more skills.

Lifelong learning goes beyond formal education and training to include 'skills development'. This is an umbrella term to describe the ways in which individuals continue to learn and acquire skills and competencies, which influence employment and earnings potential (Adams 2011). Schools, higher education, and TVET institutions engage in skills development for work, but just as, or even more, important, are apprenticeships, enterprise-based training, professional development, informal learning in the workplace, and government and non-government training programs.

Vocationalization of secondary education provides a foundation for lifelong learning in skills development for employability. As argued by many, it is desirable and appropriate that secondary schools are more accountable for developing the economic and labour force needs of society through placing a greater emphasis on skills development for employability (Maclean and Wilson 2009).

III. RESEARCH METHODOLOGY

According to Kothari (2007), research methodology is "a way to systematically solve the research problem, study the various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them" (p.8). Further Namgyel (2003) reiterates methodology as "the system of methods and principles used in a particular study. It means wide ranges of the technique are used to gather data for analysis and interpretation with respect to the research questions of the study" (p.67).

3.1 Social constructivist paradigm

The research will rely on the interpretations and meanings of participants. The interpretations and meanings can be varied and multiple, which may lead to looking for the complexity of views rather than narrow down to a few categories or ideas (Creswell, 2007). Further Creswell (2007) puts it, "in this worldview, individuals seek understanding of the world in which they live and work" (p.20). The social constructivists believe knowledge is constructed through human interactions and activity. The members of the society invent the properties of the world (Beaumie, 2001).

3.2 Research approach

The study intends to find out the effectiveness of the soft skills being taught in the public TVET Institute. For this, the researcher adopted a qualitative research method, as it was the most suitable approach. This was based on the

philosophical assumption that individuals interacting with their social world construct reality out of it. A qualitative researcher tries to study the motives of human behavior and construct knowledge (Kothari, 1985). It endeavors to find out the views, experiences, feelings, and stories of people who are involved in the research question and not of the researcher.

Vishnevsky and Beanlands (2004) assert that qualitative research allows researchers to “explore social phenomena and how they are meaningful in everyday life” (p. 234). Further, Burns and Grove in Vishnevsky & Beanlands (2004) elaborate by stating that qualitative research is done in a natural setting. So, data collection and methodology are typically elastic, allowing for modifications throughout the research process (p. 234). Therefore, the researcher aims to create a rich description of phenomena of interest. The researcher approaches the subject as collaborator and equal in the research process (Vishnevsky & Beanlands, 2004).

In view of the flexibility in usage, the qualitative method was used to study the research questions. Since this research is narrowed down to the TVET graduates of only public institutions, the researcher anticipated some misgivings during the process of research. Using this qualitative method would enable modification of the data collection tools, if and where required, as per on-field difficulties and challenges.

3.3 Research design

Edmund Husserl (1859-1938) is considered the first person to introduce phenomenology as a research methodology (Ostergaard, Dahlin, & Hugo, 2008). The philosophy emphasizes experiences and interpretations. Further, Creswell (2007) asserts, “a phenomenological study describes the meaning for several individuals of their lived experiences of a concept or a phenomenon” (p.57). As an approach within sociology, phenomenology seeks to reveal how human awareness is implicated in the production of social action, social situations, and social worlds (Orleans, 2011). Hitzler and Keller (1989, cited in Orleans, 2011) specify that the phenomenological approach employs the use of the introspective and empathetic method to describe how consciousness itself operates. In the introspective method, the phenomenologist uses his or her subjective processes as a resource for study while the empathetic method requires an empathic effort to move into the mind of others.

As soft skills subjects like English, Mathematics, Dzongkha, and IT are already introduced in TVET Institutes, it will be appropriate to use this method to explore their experiences and feelings about it. This approach will enable the

researcher to delve into the experiences and feelings of those graduates who have studied soft skills subjects in TVET Institutes. There is a need for interactions between the researchers and the participants and this philosophy provides a sound ground to work with. The study will find out the effectiveness of the soft skill subjects in our TVET Institutes through TVET graduates. It will draw common patterns and themes of the phenomenon: Effectiveness of the soft skill subjects in our TVET Institutes, particularly in Public Institutes.

3.4 Research sampling

Marshall (1996) suggests, “Choosing a study sample is an important step in any research project since it is rarely practical, efficient or ethical to study whole populations” (p. 522). Therefore, the researcher included TVET graduates who were taught soft skills subjects for this research, though there was a less diverse range of population that shared the same phenomena on the effectiveness of soft skill subjects in TVET Institute.

The positive aspect of sampling is, as Marshall (1996) suggests, “studying a random sampling provides the best opportunity to generalize the results to the population” (p.523). Further, Marshall (1996) enumerates three broad approaches of sampling: convenience sampling, judgment sample, and theoretical sample. In view of the intent and purpose of the study, I have considered the theoretical sample, which I found viable and suitable for the research. In this approach, the researcher has the liberty to select the most productive sample to answer the research question. Thus, I will be in a position to select a sample of soft skills TVET graduates. However, Marshall (1996) admits that each of the above sampling approaches appears distinct on its own right but “there is often considerable overlap between these approaches” (p. 525). Therefore, in this research, the researcher has adopted random sampling as it provides the best opportunity to generalize the result to the TVET graduate.

The sample of the research comprises particularly TVET graduates who were taught soft skills subjects. The inclusion of this sample is particularly to get an overview of the effectiveness of soft skill subjects from trainees’ perspectives.

3.5 Data collection tool

In this research, the researcher had used structured and semi-structured interviews and questions to collect data. The interview as defined by Kvale (1996) is an “attempt to understand the world from subjects’ point of view, to unfold

the meaning of people's experiences, to uncover their lived experiences" (p. 112). Similarly, Clarks (2007 cited in Polit and Beck 2006) elaborates interview as a method of data collection in which one person (an interviewer) asks questions to another person (a respondent)" (p. 2). It will reveal their experience and views of what happened about the phenomena. It will also provide an interactive process of communication between the researcher and the participants. As a researcher, it will also enable me to observe bodily gestures and expressions with regard to my research question. Further Namgyel (2011) supplements that interview "is a purposeful verbal interaction intended to dig information on research study (p.94).

Basically, there are three types of interviews – structured, semi-structured, and unstructured. Of the three types, in this research, the researcher is going to use the semi-structured interview for it provides the researcher with the option of having a "specific interview schedule or having none at all, or interview guide may be developed" (Burns, 2000, p. 424 cited in Namgyel, 2011, p.94).

3.6 Validity and reliability

Namgyel (2011) defines validity as "the degree to which a test measures what is supposed to measure" (p.102). The basic underlying principle of research is the dependability of its results and outcomes. Similarly, Angen (2000) in Creswell (2007) reaffirms validation as "a judgment of the trustworthiness or goodness of a piece of research" (p.205). Further Angen (2000) in Creswell goes on to support two types of validation – ethical validation and substantive validation. Under ethical validation, the research must pass the questions of political issues, ethical issues, and other diverse voices. It must also open dialogue and avenues for further research (Creswell, 2007). Similarly, substantive validation encompasses, as Creswell (2007) states, "understanding one's own understanding of the topic, understanding derived from other sources and the documentation of this process in the written study" (p.206).

Thus, Creswell (2009) sums up the validation as "strengths of qualitative research and it is based on determining whether the findings are accurate from the standpoint of the researcher, the participants, or the readers of an account" (p.191).

3.7 Ethical consideration

Orb et al (2000) stressed the importance of ethical considerations in these lines: The research process creates tension between the aims of research to make generalizations

for the good of others, and the rights of participants to maintain privacy (Orb, Eisenhauer, & Wynaden, 2000).

The maintaining of ethics in any kind of research pertains to doing well and avoiding harm. Harm can be prevented or reduced through the application of appropriate ethical principles. Thus, the protection of human subjects or participants in any research study is imperative. The violations of human rights in the name of scientific research have been among the darkest events in history, (Orb, Eisenhauer, & Wynaden, 2000).

Research has to ensure that ethical issues are addressed at three stages: pre-data collection, during data collection, and post-data collection (Namgyel, 2011). In the first phase of pre-data collection, it is important to seek prior approval from concerned agencies and authorities. In this research, I have sought written approval from the Department of Technical Education, Ministry of Labour and Human Resources. The approval for collecting data was also sought from the concerned TVET graduates.

3.8 Research plan of action

The interview and its timing were set as per the convenience of the participants, so as to minimize to the extent possible the disturbances and impediments to the respondents. All the interviews were conducted outside of the normal schedule, which enhanced the consistency of the interviews. The places of the interview also provided physical as well as psychological ambiance as it was conducted away from any external distractions. This enabled the researcher to conduct the research in a free and conducive atmosphere. The data were collected from a minimum of 15 TVET National Certificate - II (NC2) graduates who had from public TVET Institutes.

3.9 Significance of the study

The research mainly focused on assessing the perception of TVET graduates on the introduction of soft skills subjects in TVET Institutes and its effectiveness. The study, although specifically focused on public TVET graduates, presents interesting insights on the efficacy of soft skills program and their relevance in technical and vocational training. Further, the study also serves as a starting point for bigger and National Level research on the importance of the soft skills components being delivered in the TVET programs.

3.10 Limitation of the study

The major limitation of this research is that the number of participants involved in this study is relatively less to

represent the views of the whole TVET Institutes that offer soft skills subjects. Although it is intended to assess the effectiveness of the soft skills subjects taught to TVET Institute under the Department of Technical Education, Ministry of Labour and Human Resources, the actual data collection was narrowed down to thirty TVET graduates. Based on past studies that have been conducted through tracer studies on this subject, 30 participants seemed to be an ideal sample size to carry out a comprehensive assessment. The research with as little as 10 participants has also yielded extremely fruitful and applicable results. In order to have a clear view on the effectiveness of soft skills subjects from graduates' perspectives, it would require a greater and more representative number of TVET graduates' participation. Therefore, the finding of this research is by no means representative of the views of all public TVET graduates. It may be a small-scale study, nonetheless, it provides insights into a critical component of TVET education reform, and thus presents a huge potential for more in-depth, national-scale research on this particular subject.

IV. DATA MANAGEMENT AND ANALYSIS

The researcher coded all completed survey questions and data were analyzed. Quantitative and qualitative data were combined through cross-referencing, and the views of respondents about the nature and validity of those relationships and the context in which they are found were reported. The findings were interpreted in the form of descriptive methods with basic arithmetic tools and tabulated and interpreted using tables and charts in form of facts and figures. Triangulation was used as an explanatory tool, especially when assessing conflicting topics. A complete literature review was done while collecting data to enhance the effectiveness of result analysis.

4.1 Research discussions, findings and analysis

A total of 30 TVET graduates answered the structured questionnaire designed to indicate what they genuinely felt

about the effectiveness of the soft skills subjects taught in the Institute. The effectiveness of the soft skills subjects taught in the Institute was perceived differently by different TVET graduates with different academic standards.

The findings also suggest that the TVET graduates have a clear understanding of the effectiveness or ineffectiveness of the soft skills program irrespective of their academic qualification before joining the Institute in various courses.

Many TVET graduates were of the view that subjects like English, Mathematics, Dzongkha, and IT had definitely helped them not only to prepare for their future employment but also increased their level of confidence in handling situations in their day-to-day life. The graduates also understand the importance of soft skills in enhancing their core skills.

4.2 Coverage of the study

A total of 30 TVET graduates from Public TVET Institute were interviewed for this study using structured as well as semi-structured questions. For qualitative research, a minimum sample size of at least 12 respondents is said to be required to reach data saturation (Clarke & Braun, 2013; Fugard & Potts, 2014; Guest, Bunce, & Johnson, 2006). Consequently, a sample of 30 TVET graduates was considered adequate for the qualitative analysis for this study.

V. RESEARCH FINDINGS

The data was processed and the following results have emerged in general:

Gender respondents

Of the total 30 respondents interviewed for this research, 18 were male and 12 were female. The respondent comes from different parts of the country with diverse cultures and traditions. They have different experiences before joining the TVET Institute and they are serving in various parts of Bhutan upon graduation from the Institute.

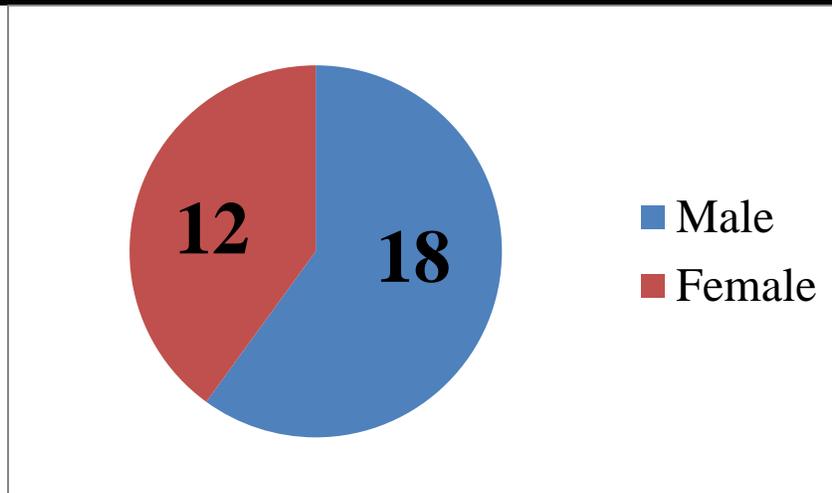


Fig.1: Respondents gender for the research

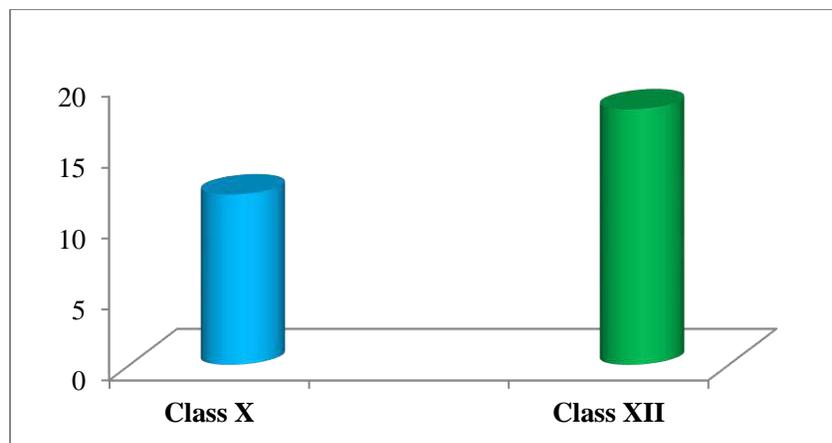


Fig.2: Respondents academic qualification prior to joining TVET Institute

Although the Royal Government of Bhutan had set the academic criteria for joining in TVET Institutes as Class X standard, the majority of candidates joining TVET courses in various Institutes are class XII standard. Of the total respondents interviewed for this study, 12 of them had class X qualification while the remaining 18 had class XII

qualification. The trend of class X joining the TVET Institute had drastically decreased in the year 2020 when the Government had encouraged class X students to pursue class XI through state funding for the students who could not meet the cutoff points in the Public Schools.

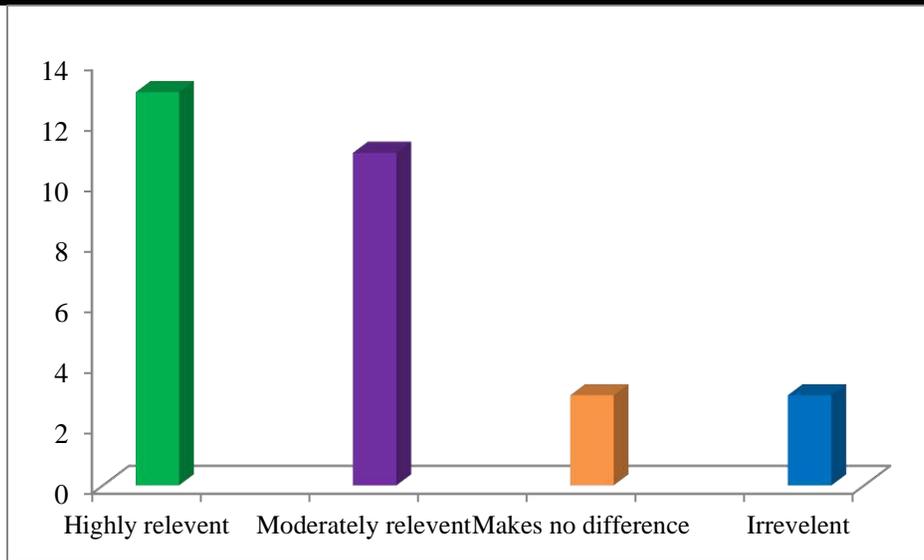


Fig.3: Respondents view on relevancy of the soft skills taught in the Institute

There is no doubt on the relevancy of the soft skill subjects being taught in the public institute as seen in the figure:3 Majority of the graduates (13) were proud of having learned the soft skills in the institute followed by eleven respondents who believed that soft skill was moderately relevant. However, it is interesting to come across three TVET graduates who doubt the relevancy of the soft skills being

taught in the institute. They were of the view that they would have been employed in any relevant industries even if they were not taught those soft skills. The soft skills subjects had not made any impact on the three respondents as they were frankly expressing that it didn't make any difference in their life.

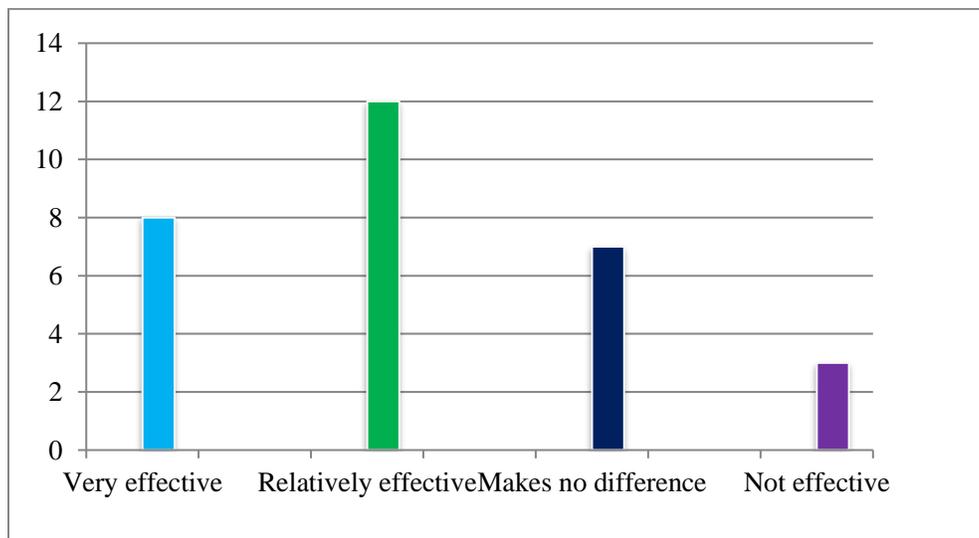


Fig.4: Respondents view on effectiveness of soft skill subjects

The respondents were asked to grade the effectiveness of the soft skills component. A majority of the respondents (12) said the program was relatively effective followed by eight respondents who said it was very effective. Seven respondents said it makes no difference while three said it

was not effective. This finding strongly indicates that the majority of the respondents (20) perceived that the soft skills component was relative to very effective. This is a positive sign that the soft skills program was helpful in some ways to the technical graduates.

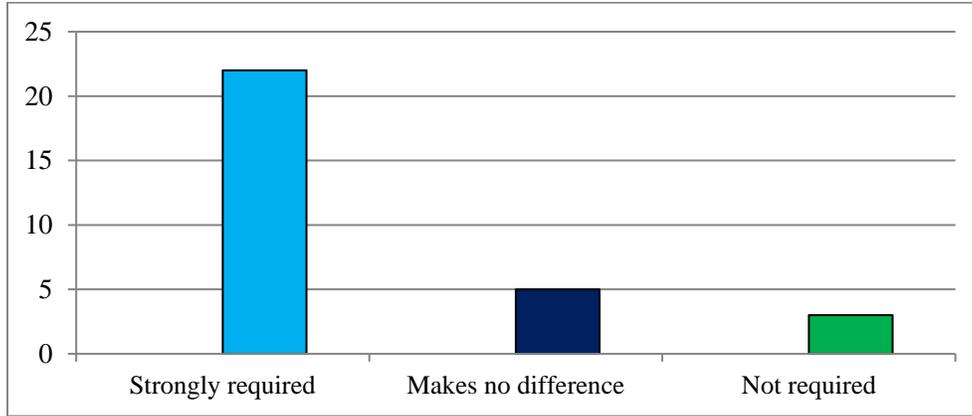


Fig.5: Respondents view on requirement of soft skill subjects in TVET Institute

Although there is a certain level of challenges and inconsistency in teaching and learning of soft skill subjects, the majority of the respondents (22) felt that soft skills program in TVET institutes is strongly required while 5 said

it makes no difference. The remaining 3 respondents said that the program is not required. Therefore, the finding indicates that the soft skills program in TVET institutes has high-value addition just as it is effective, it is also required.

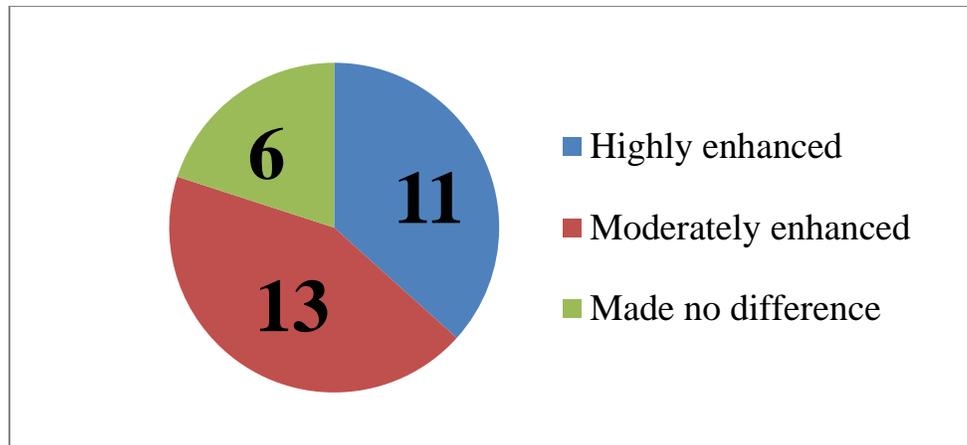


Fig.6: Respondents view on Soft Skill Subjects enhancing core skill

The respondents were asked how the soft skills program enhanced their core skills. A majority of them said that it moderately enhanced their core skills while 11 said it highly

enhanced their core skills. Only six respondents said that it made no difference. The findings strongly indicate that soft skills programs add value by enhancing their core skills.

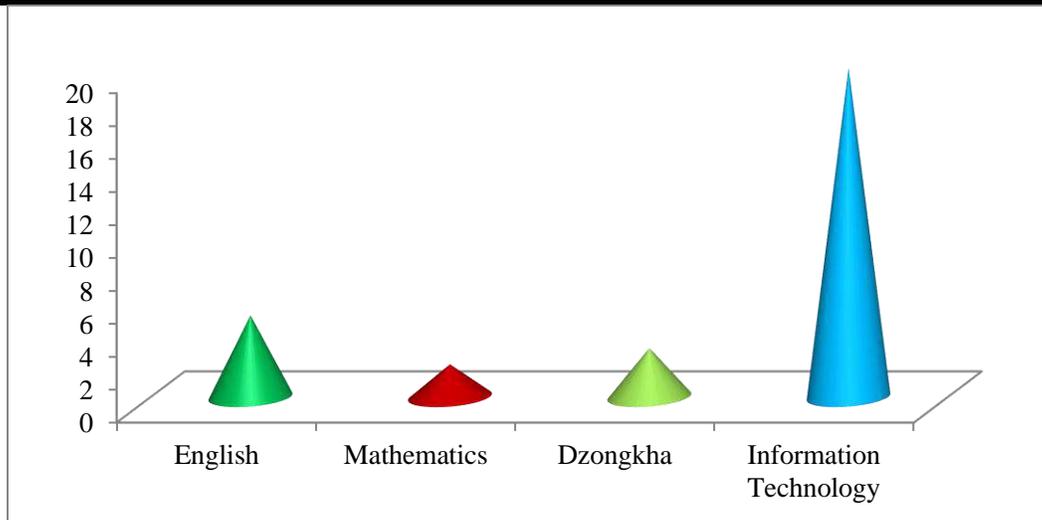


Fig.7: Most important soft skill subjects considered by Bhutanese TVET graduates

Respondents were asked to choose the most important soft skills subjects. A vast majority of respondents (20) felt Information Technology was the most important followed by five selecting English and the remaining 3 choosing Dzongkha. Only 2 respondents felt mathematics was important. This finding clearly suggests that Information

Technology is a highly valued subject among TVET graduates.

This is however an interesting and surprising component of the findings. Mathematics is an integral component of any technical education and generally perceived to be important. However, only two respondents perceived mathematics as an important soft skills subject.

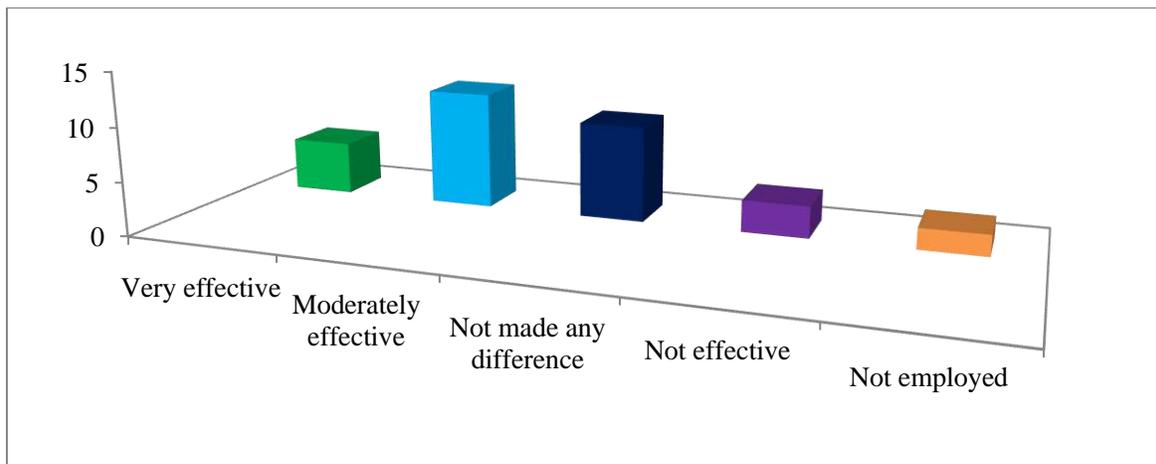


Fig.8: Effectiveness of soft skill subjects in preparing TVET graduates for employment

A majority of respondents (11) felt that the soft skills program was moderately effective followed by five who said it was highly effective. However, 9 respondents said that it didn't make any difference while 3 said it was not effective and 2 respondents were not employed. This finding indicates

that soft skills programs play a role in preparing TVET graduates for employment. Therefore, it would be critical for TVET educators to provide relevant soft skills courses that will equip graduates with a wide range of soft skills, enhancing their employability and job prospects.

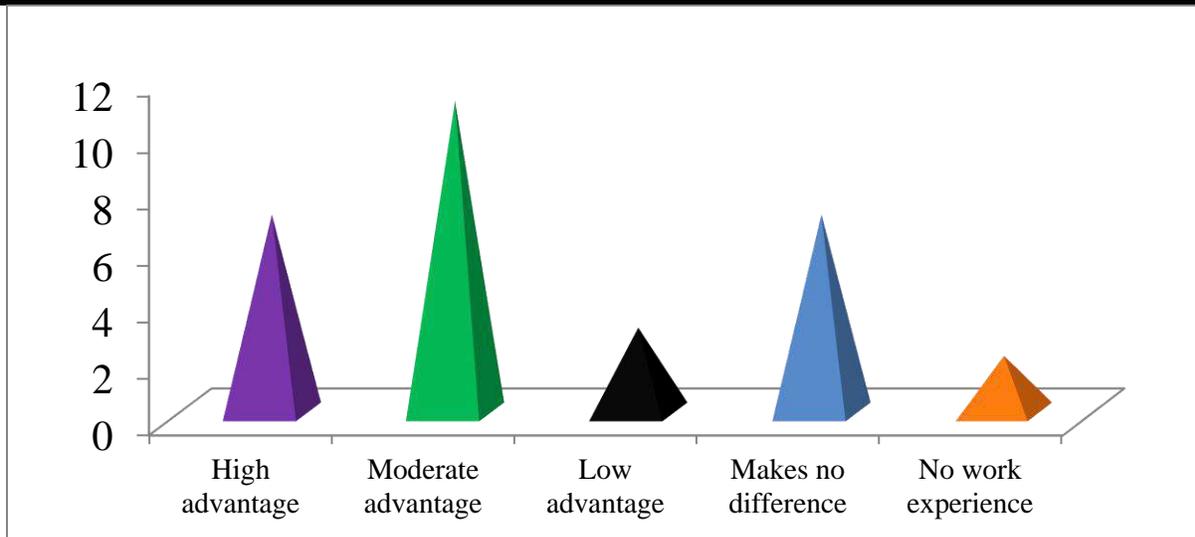


Fig.9: Perception on advantages of soft skills in their workplace

A majority of respondents (11) said that soft skills provided a moderate advantage in their workplace while seven respondents said it is highly advantageous. Two respondents said it is of low advantage and seven said it made no

difference. Two had no work experience. The finding clearly shows that the respondents feel soft skills programs provide an advantage in their workplace.

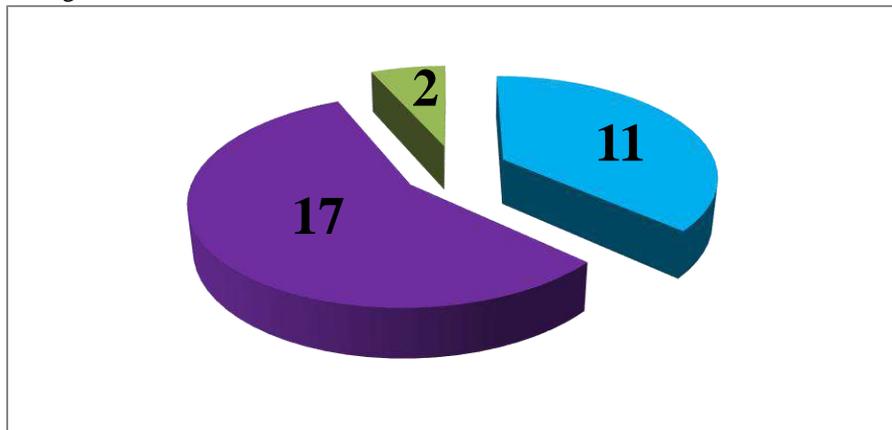


Fig.10: TVET graduate's perception on equal importance of soft skill to that of their core skill

The TVET graduates have different perceptions on the equal importance of soft skill subjects to that of their core skills. A majority of respondents (17) felt that soft skills will never be equally important to core skills while 11 of them said that it is as equally as important as core skills. Two respondents

said that they are not sure. This finding indicates that more or less, they are solely dependent on their core skills upon their employment. A few of the respondents also shared that they hardly get a chance to deal with customers in the firm as all issues were dealt with by their supervisors.

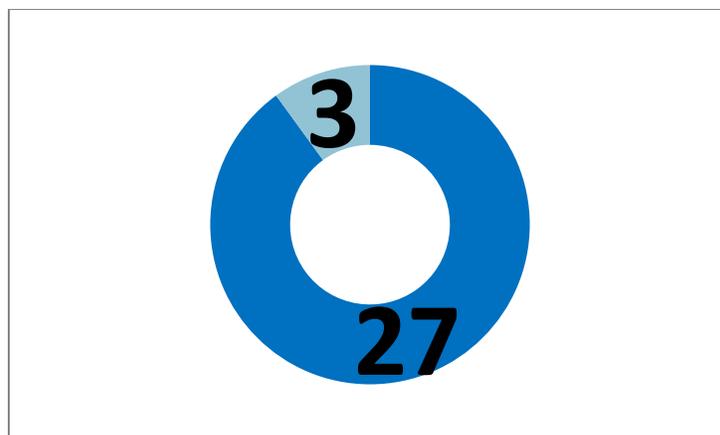


Fig.11: Sufficiency of Time/Period allocation for Soft Skills subjects]

Almost all the respondents (27) said that there was sufficient time or period allotted to the soft skills program against only three respondents who said that more time is required for the soft skills program. Upon further examining the three respondents who need more time and more periods, all three of them had joined TVET Institute after class X standard. Therefore, this finding indicated that more time and higher period allocation is needed if the majority of the class X standard joined the TVET Institute.

VI. RECOMMENDATIONS

The following recommendations are made based on the findings of the research and interviews conducted with the respondents:

- Given the efficacy of the soft skills program in preparing graduates for the world of work and beyond, TVET institutes need to prioritize the soft skills curriculum and pedagogy to equip graduates with vital skill sets that will enhance their employability and work performance.
- There is a need to diversify the soft skills programs by including relevant and specialized skills mainly communication and interpersonal skills, analytical skills, creative skills, design skills, etc.
- Since Information and Technology is the most important component among the soft skills subjects, the IT subject can include coding and programming, which would provide additional skills to the graduates.

VII. CONCLUSION

The introduction of subjects like English, Mathematics, Dzongkha, and Information Technology in the Bhutanese TVET system was timely. Its aim of improving the employability opportunity and career prospects of the graduates and to prepare them for the competitive job market has fairly served its purpose. The study also reveals that the majority of the graduates' overall performance in their work environment is not only cordial but also paves a way and pathway for higher education in the latter part of their lifelong learning.

Although the finding of the study is not highly comprehensive, however, the research indicates that the soft skill subjects are playing an important role. Irrespective of gender and qualification of the graduate, there is a growing awareness of the importance of soft skills program and their effectiveness in developing vital skill sets that help graduates improve in their higher chances of employability and work performance in the organization. The study also reveals that the soft skills program had not only added value in learning their core skills but also prepared and groomed them in boosting their confidence in finding the jobs and sustaining in it.

However, what was best in the past is not good enough now and perhaps will never be better in IR 4.0. There are lots of things queued up to be done. If not done now, when will it be? If we don't do it, who will do it for us? For all those questions, TVET sector is the answers. The bright future for TVET graduates lies in the hands of the Department of Technical Education, Ministry of Labour, and Human Resources. Let's join our hands to invest and contribute to make it happen – a dream come true.

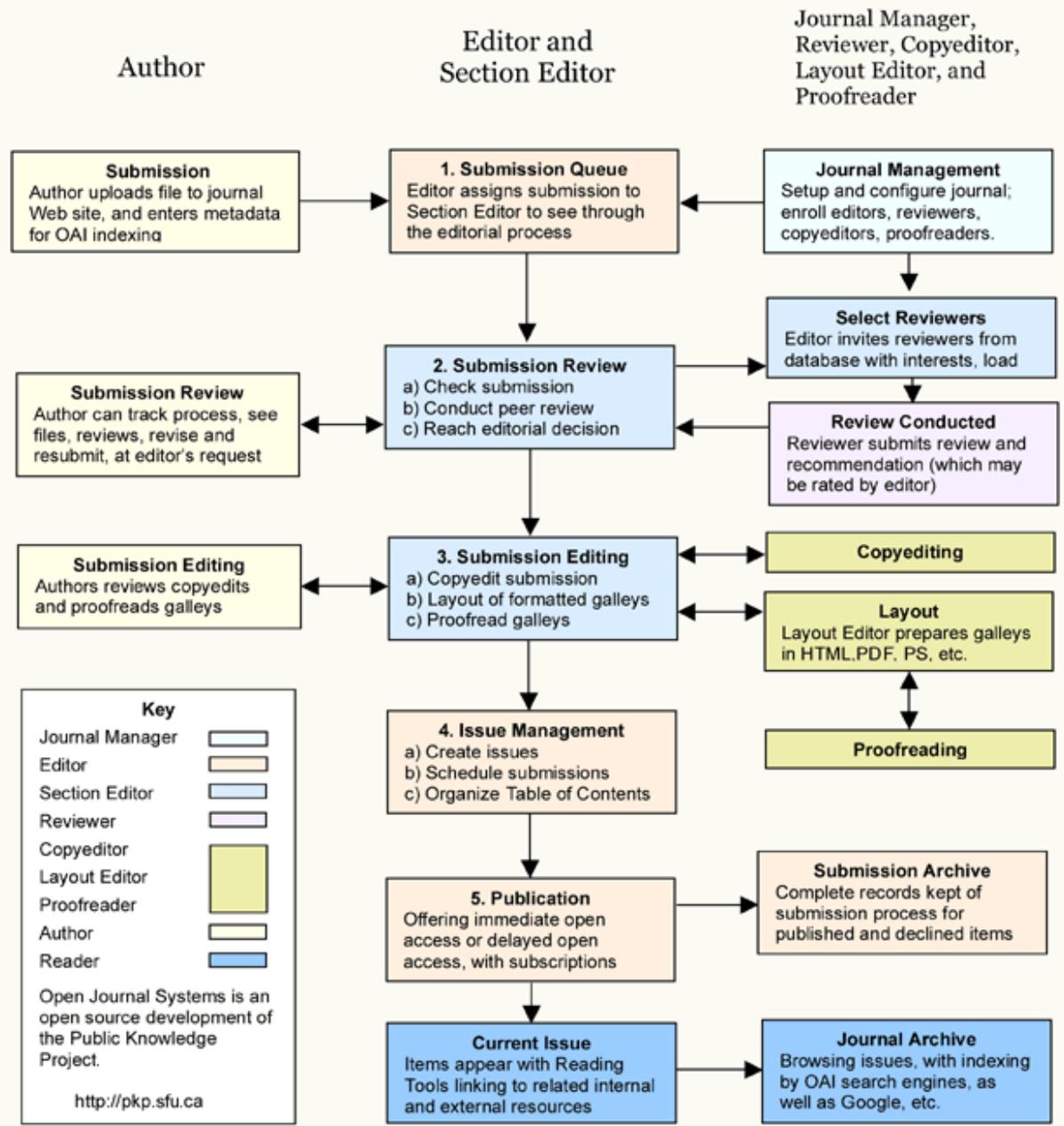
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