

Human Resource Management for Effective Planning and Marketing of Petroleum Products (A Case Study of PPMC, Ekpan-Warri, Delta State, Nigeria)

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ABSTRACT

The aim of this study is to examine the impact of human resource management (HRM) on planning and marketing of petroleum products in Pipelines and Products Marketing Company Limited (PPMC) Ekpan-Warri, Delta State, Nigeria. Data were obtained through personal visitation and discussion with the workers of the various departments together with their published materials and internets which were analyzed by using statistical tools. The results showed that 486 staff out of 852 staff was trained on technical courses while 316 staff was trained on managerial courses. 782 vacant positions were identified in the organization out of 2,500 project labour force of which 505 and 95 were from technical and administration/personnel departments respectively. The shortage of staff in technical skill has resulted to irregularity in supplying, distribution, consumption and marketing of petroleum products. The overall performance of the organization is below standard as a result of imbalance in the system. The study therefore recommended that services of HRM professionals, consultants and researchers should be employed to re-shape directional focus of the company and government should provide adequate fund that will enhance proper manpower utilizations and maximized marketability petroleum products dividend for the country.

Keywords: *Human resource management, petroleum, production, consumption planning, marketing*

1. INTRODUCTION

Human resource management (HRM) is an essential factor for sustained competitive advantage. Research highlights that organizations develop sustained competitive advantage through management of scarce and valuable resources [1]. This realization has led to the new role of human resource managers as strategic partners in formulation and implementing organizational strategy [2]. Review of literature indicated essential HRM practices as workforce planning [3]; job analysis [4]; training and development [5]; Recruitment and selection [6].

Human resource management was introduced into the Nigeria in 1940 during the colonial era; with industrialization and commercialization, which later became wage employment. Ever since, there has been a tremendous growth of human resource in Nigeria, which in recent years has been characterized by lack of professionalism and specialization [7]. Different reasons have been accounted as the challenges facing human resource management practices in Nigeria. Chang and Chen [1] identified the first challenges as socio-cultural diversity which includes culture, language, religion, gender and educational qualifications that determining who to employ while Tessema and Soeters [8] identified occupational health and safety as another challenges due to lack of reliable official statistics on the number of fatalities and non-fatalities in organizations in Nigeria. Another challenge is the inability of employees in Nigeria to know their right to work in a safe environment, free of occupational hazards and appropriate

compensation in the case of accidents or hazards that can affect them both psychologically and physically [7].

The success of distribution and marketing of petroleum products depends on effective human resource management. As a result of commercialization in NNPC, there is a need to clearly define the level of manpower requirement in any of its subsidiaries [9]. This behooves each subsidiary as a commercial venture to critically analyze its staffing situation with a view to determining its optimal staff needs which will efficiently and effectively operate the enterprise. Since the embargo on recruitment, the staff strength of NNPC and its subsidiaries have continuously dwindled through natural wastage without corresponding replenishing the gap between the approved manning level and the physical staff strength continues to get widened with passage of time [10]. In the case of Warri Refinery and Petrochemical Company (WRPC), the situation got worse during the merger of the refinery and the petrochemicals to form the new company. WRPC took over the problems of the petrochemicals company who could not employ an optimal operational staff level during the construction stage [11]. The main activities of the company were handled by the contractors; therefore the work force on the ground was far below the optimal level required for efficient performance of the plant [12]. In order to sustain operations, the company had to resolve to the engagement of casuals/temporary staff, contract labour and youth corpsers which was not ideal [11]. Apart from the issues of loyalty and security, the efficiency and commitment of these non-permanent staff cannot be guaranteed.

Also, the existing staff distribution in the WRPC looks lopsided with the consequence that there is excess staff in one department while there are gross deficits in other departments [11]. For objective rationalization and effective utilization of staff in order to attain commercially-oriented status, there is the need for a meaningful skill and ability inventory of the personnel within the organization.

2. MATERIALS AND METHODS

2.1 Description of the Study Area

Warri refinery was established in 1978 with installed capacity of 125,861.195 barrel per day (16,371 metric tons per day) equivalent to 20,011,930 liters. The petrochemical plant was commissioned in March, 1988 with 35,000MT/year polypropylene and 18,000MT/year carbon production facility [13]. The refinery is designed to process Escravos Light crude (Chevron) and UQCC crude (shell) into finished petroleum products [10]. These products are marketed by pipeline product and marketing company (PPMC) through various channels (i.e. truck depot, WRPC Jetty and PPMC pipeline system 2A) [13]. The PPMC has staff strength of more 2500 with more 900 are permanent staff while others are casual workers or backup staff [11]. The company is manned by managing director which is the chief executive officer of the company and is supported by two executive directors of operations and

services. The operation section is responsible for the smooth operations of the plants and is made up of production department, power plant utilities department, fire/safety department, environment protection department, engineering and technical services department, production programming and quality control [12] while service section is responsible for all the support services and is made up of human resource department, general administration department, security and public affairs department, finance and account. The company secretariat is headed by the secretary [11].

2.2 Data Collection

Data were collected through personal visitation and discussion with the workers of various departments of Warri Refinery Library, PPMC Head office, Petroleum Products Price Regulatory Agency (PPPRA) Head office and NNPC Head office. This was supported with assessment of the companies' published materials and internets. The data collected were of two parts, the first part are manpower training, development and staff matter while the second part is the marketing of petroleum products which includes channel of marketing, average daily distribution and consumption of petroleum products. These qualitative data and information collected for the study were analyzed by using statistical tools (graphs and charts).

3. RESULTS AND DISCUSSION

3.1 Results

The data collected from Warri Refinery Library, PPMC Head office, PPPRA Head office and NNPC Head office are presented in Table 1 to 9

Table 1: Summary of Trained Staff

S/N	ORGANIZER	STAFF TRAINED
1.	Managerial / Common Course Organizer by WRPC	316
2.	Technical Course Organizer by WRPC	486
3.	Common And Compulsory Courses Organizer by HRDD	22
4.	HRDD Overseas Courses	8
5.	Petroleum Training Institute (PTI) Sponsorship	20
6.	Total staff trained	852

Source: Adapted from Annual Report for Manpower Development WRPC [14].

Table 2: Summary of Identified Vacancies, Surplus and Additional Staff Requirement

Department/Unit	Identified Vacancies	Identified Surplus	Additional Staff Requirement
Managing Director (MD)	1	-	1
Executive Director Operation (EDO)	1	-	1
Executive Director Services (EDS)	1	-	1
Internal Audit (IA)	5	-	5
Production (P)	150	14	136
Maintenance (M)	246	11	235
Engineering and Technical Services (ETS)	109	8	101

Fire and Safety (FS)	11	-	11
Administration and Personnel (AP)	95	2	93
Finance and Accounting (FA)	14	1	13
Planning and Development Services (PDS)	87	5	82
Medical Servicing (MS)	52	-	52
Common Servicing (CS)	51	-	51
Total	823	41	782

Source: Adapted from “Human Resource Utilization in WRPC [15]

Table 2 shows that:

Gross Vacancies in the organization = 823

Surpluses staff in some grade levels = 41

Net Vacancies = Gross vacancies – Surpluses = 782

Available Staff Strength = Projected labour force – Vacant position

= 2,500 – 782

= 1,718

Table 3: NNPC Warri Crude Oil Receipts (Metric Tons) (4Q11-1Q12)

	Crude oil receipt	Ughelli blend	Escravos light	Escravos / heavy	Additive	Total (MT)
OCT 2011	Planned receipt	0	319,257	0	0	319,257
	Actual receipt	0	250,457	0	0	250,457
NOV 2011	Planned receipt	0	295,608	0	0	295,608
	Actual receipt	0	260,750	0	0	260,750
DEC 2011	Planned receipt	0	307,432	0	0	307,432
	Actual receipt	19,654	394,943	0	0	414,597
JAN 2012	Planned receipt	0	307,432	0	0	307,432
	Actual receipt	85,903	242,550	0	0	328,453
FEB 2012	Planned receipt	0	260,135	0	0	260,135
	Actual receipt	0	154,756	0	0	154,756

Source: Adapted from Technical Report and Material Balance WRPC [13]

Table 4: NNPC Warri Crude Oil Processed (Metric Tons) (4Q11-1Q12)

	Crude oil processed	Ughelli blend	Escravos light	Escravos / heavy	Additive	Total (mt)
OCT 2011	Planned processed	0	319,257	0	0	319,257
	Actual processed	0	125,170	0	0	125,170
NOV 2011	Planned processed	0	295,608	0	0	295,608
	Actual processed	0	234,830	0	0	234,830
DEC 2011	Planned processed	0	307,432	0	0	307,432
	Actual processed	19,654	290,786	0	0	310,440
JAN 2012	Planned processed	0	307,432	0	0	307,432
	Actual processed	85,903	44,218	0	0	130,121
FEB 2012	Planned processed	0	260,135	0	0	260,135
	Actual processed	0	0	0	0	0

Source: Adapted from Technical Report and Material Balance WRPC [13]

Table 5: 10 – Years Domestic Refining Capacity Utilization (%)

YEAR	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
KRPC	15.96	26.00	33.08	8.34	0.00	19.56	22.17	20.46	22.17	29.12	196.86
PHRC	41.88	31.04	42.18	50.26	24.87	17.84	15.23	9.17	11.96	11.95	256.38
WRPC	14.27	9.10	54.85	3.85	0.00	38.52	41.34	43.36	27.99	27.88	261.16

Source: NNPC, Annual Statistical Bulletin, 2012

Table 6: 10 – Year Crude Oil Production, Export and delivery to Local Refineries (Barrels)

Year	Crude Oil Production	Crude Oil Export	Crude Oil Delivered to Local Refinery
2003	844,150,929	795,984,478	44,228,532
2004	910,156,486	878,077,349	37,962,964
2005	918,660,619	844,151,498	72,185,480
2006	869,196,506	817,996,072	41,334,928
2007	803,000,708	791,826,519	18,383,189
2008	768,745,932	724,479,796	41,320,034
2009	780,347,940	769,195,205	19,633,555
2010	896,043,406	864,702,101	34,700,973
2011	866,245,232	822,082,224	45,393,392
2012	852,776,653	830,772,048	4,926,533
Total	8,509,324,411	8,139,267,290	360,069,580

Source: Returns from the Major Petroleum Marketing Companies and PPMC, 2012

Table 7: 10 – Year PPMC Petroleum Products Import and Export (Metric Tons)

Year	PMS		HHK		AGO	
	Import	Export	Import	Export	Import	Export
2003	5,404,163	9,730.82	637,621	1,956.30	1,146,685	19,648.54
2004	5,696,399	-	418,245	-	211,471	-
2005	5,482,813	770,000	671,939	9,890.00	-	-
2006	5,407,634	5,015.89	1,081,503	8,298.92	-	30,281.00
2007	5,792,449	-	1,335,022	5,858.95	-	-
2008	4,596,145	-	909,542	12,134.82	-	-
2009	5,988,567	-	1,170,993	-	-	-
2010	5,031,288	-	1,608,464	-	-	-
2011	487,375	-	151,009	-	121,297	-
2012	5,873,996	-	2,058,298	-	-	-
Total	49,760,829	784,746.71	10,042,636	38,138.99	1,479,453	49,929.54

Source: Returns from the Major Petroleum Marketing Companies and PPMC, 2012

Table 8: 10 – Year Domestic Petroleum Products Sales by PPMC (000 Litres)

Year	PMS	HHK	AGO	LPFO	HPFO
2003	6,384,126.62	1,145,092.79	2,288,024.60	1,192,043.63	472,028.65
2004	6,073,330.35	1,132,879.89	1,437,457.09	548,064.51	9,551.35
2005	7,224,161.76	1,773,771.27	2,030,507.76	550,774.65	0.00
2006	8,846,928.57	2,073,820.14	1,358,199.19	255,546.17	0.00

2007	7,725,762.20	1,759,120.98	626,283.02	160,149.92	0.00
2008	7,206,728.55	1,949,836.76	1,273,203.12	530,553.54	0.00
2009	6,876,576.84	1,898,721.85	648,416.86	403,709.55	0.00
2010	9,090,469.69	2,996,466.65	1,336,361.20	239,595.20	0.00
2011	8,042,354.23	2,869,295.52	1,750,464.63	472,110.17	0.00
2012	8,391,032.37	3,123,278.64	1,013,222.78	498,661.28	0.00
Total	75,861,471.18	20,722,284.49	13,762,140.25	4,851,208.62	481,580.00

Source: NNPC, Annual Statistical Bulletin, 2012

Table 9: 10 – Years Average Daily Petroleum Products Distribution (000 Litres)

Year	PMS	HHK	AGO
2003	23,906.68	3,756.72	6,508.80
2004	23,707.13	2,286.35	5,234.96
2005	23,682.91	3,804.78	6,487.99
2006	22,758.86	2,538.06	4,519.86
2007	24,273.43	1,466.02	3,794.40
2008	23,551.33	2,534.04	3,857.43
2009	28,535.05	1,987.17	3,273.91
2010	17,406.90	1,831.64	2,409.23
2011	15,584.79	2,467.69	2,679.16
2012	13,746.67	1,728.65	1,854.05
Total	217,153.75	24,401.12	40,619.79

Source: NNPC, Annual Statistical Bulletin, 2012

3.2 Discussion of the Results

3.2.1 Manpower Training and Development in WRPC/PPMC

Fig. 1 shows the summary of manpower training and development (MPTD) organized by WRPC, HRDD, PTI and others for the staff of PPMC. It was shown that technical

courses have highest staff trained of 486. This is because the company known that technical department (production, maintenance, engineering and technical services) is the backbone of the company in supply and marketing of petroleum products. It helps the company to accomplished specialized activities, reduce down time of the plants and enhance productivity. The managerial course was the second with 316 trained staff. This helps the company in the areas of interpersonal, informational and decisional roles.

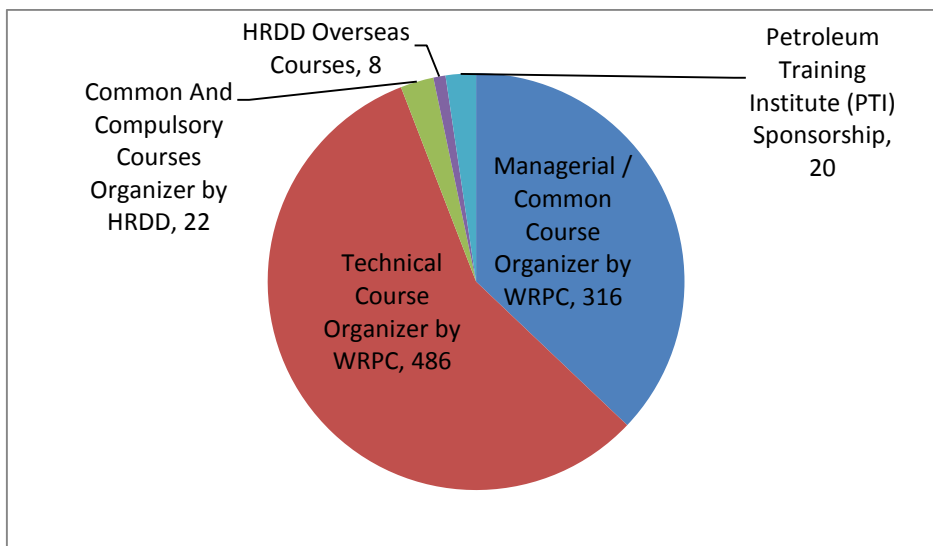


Figure 1: Summary of Manpower Training and Development in WRPC

3.2.2 Manpower Allocation and Vacancy in

WRPC/PPMC

Fig. 2 shows that 823 gross vacancies were identified in the company which reduced to 782 due to about 41 surplus staff identified in some grade levels. About 505 vacancies were identified in technical department (production, maintenance, engineering and technical services) while about 95 from

administration/personnel department. This may be the major reason of low performance recorded in WRPC which has led to irregularity in supply and marketing of petroleum products. The organization needs additional 443 staff in technical department and about 129 in administration/personnel department in order to attain their 2,500 projected labour forces. This will ensure effective utilization of human resources and allow optimum efficiency in the supply and marketing of petroleum products by the company.

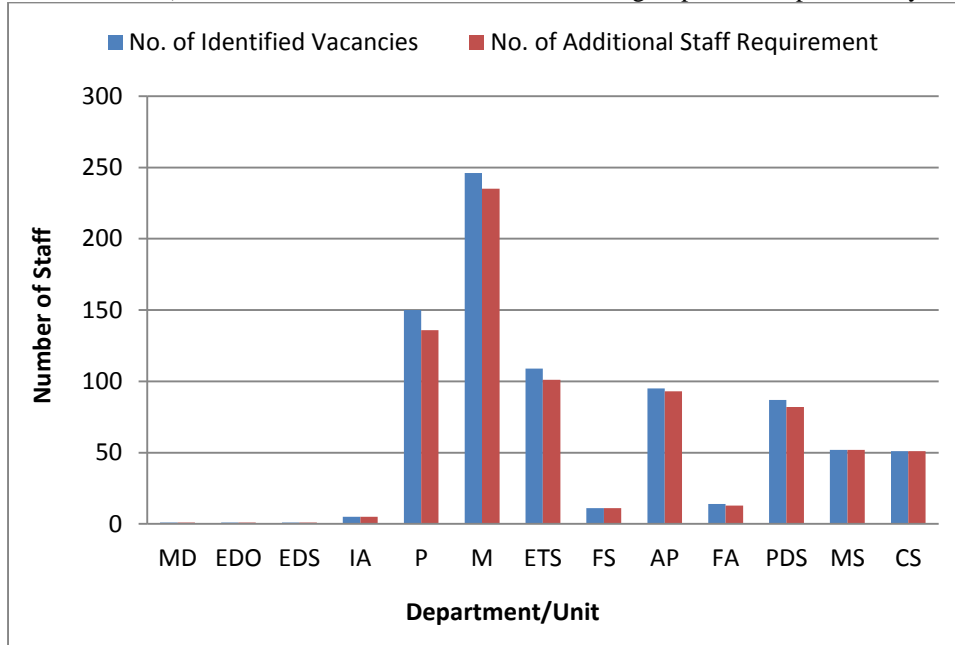


Figure 2: Summary of Manpower Allocation and Vacancy.

3.2.3 Crude Oil Receipt in WRPC/PPMC

Fig. 3 shows tremendously improvement in actual crude oil receipt (MT) from first quarter of 2011 up to the last quarter of 2011. This analysis based on comparative between planned receipts (MT) and actual receipt for Escravos and SPDC

Crude. The highest recorded crude oil receipt was 394,943 MT in the last month of fourth quarter of 2011 and lowest was 154,756MT in the second month of the first quarter of 2012 as a result of fuel subsidies removal by the Federal government which PENGASSAN and NUPENG were involved in the protect against the Federal government action.

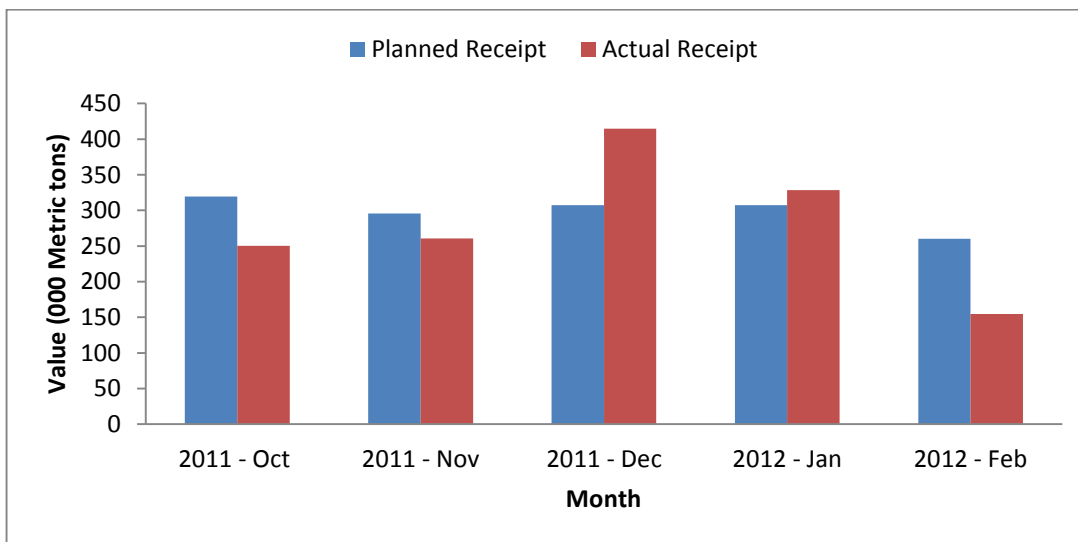


Figure 3: NNPC WARRI Crude Planned and Actual Oil Receipt (4Q11-1Q12)

3.2.4 Crude Processing Data in WRPC/PPMC

Fig. 4 shows that only Escravos crude was processed from the first to the fourth quarter of 2011. The actual processed crude oil was increased progressively up to 290,786 (MT) at the end of the fourth quarter of 2011 (i.e. December 2011) before it

drastically reduced to zero (MT) in February, 2012. The increment in crude oil receipt was due to the motivation given to the workers during the annual stock taking in December while the reduction in crude oil receipt in first quarters of 2012 was due to plants operating under zero percentages, time efficiency and down throughout the period.

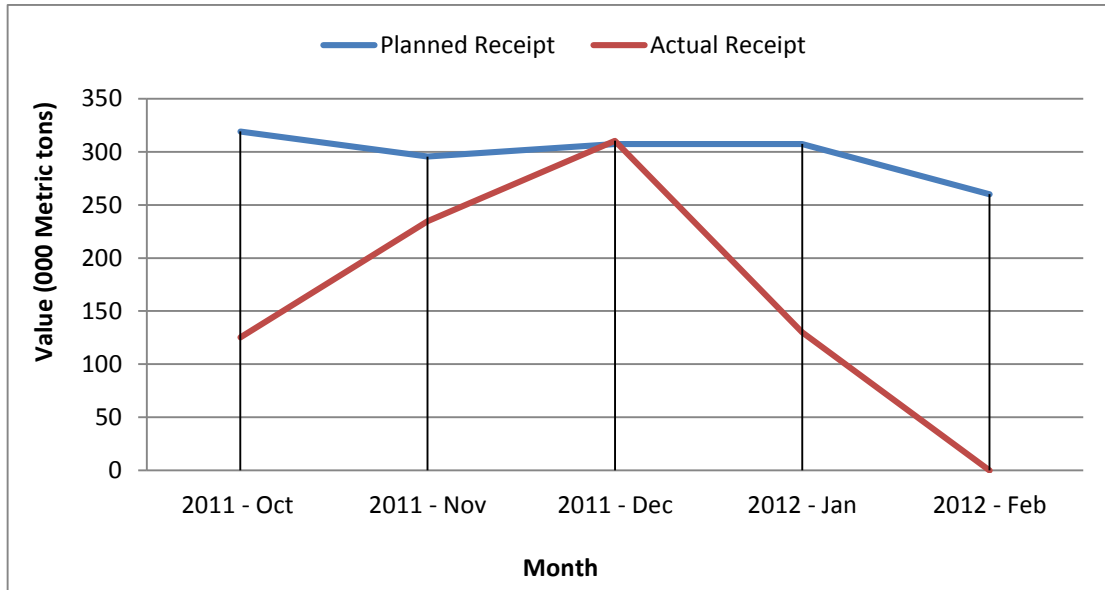


Figure 4: NNPC WARRI Crude Oil Processed (Planned and Actual), 4Q11-1Q12

3.2.5 Crude Oil Production, Export and Delivery to Local Refinery

Fig. 5 shows that a total of 8,509,324,411 barrels of crude oil were produced, 8,139,267,290 barrels exported and 360,069,580 barrels were released for the three local refineries to process from 2003 to 2012 respectively. The figure shows that almost 90% of our crude oil was exported to other countries without processing while about 20% of the crude oil

was processed to different petroleum products from our local refineries. This may be the reason of poor performance of our local refineries which has resulted to scarcity of petroleum products with high cost despite of our high crude oil production. The information available shows that Nigeria is an important oil supplier to the United State of American, Asian countries, European countries and other African countries as a result of low sulphur content in our crude oil.

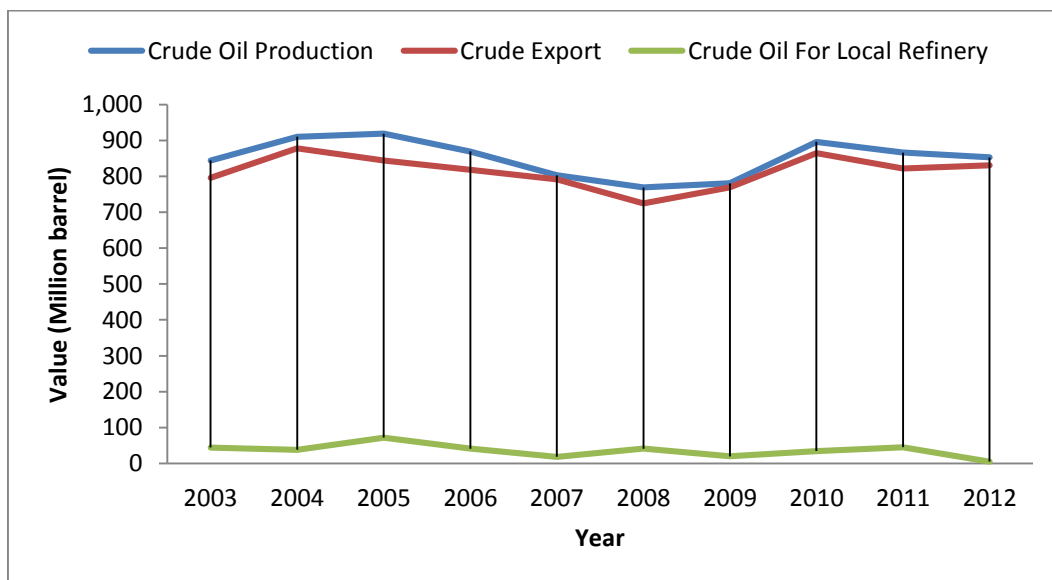


Figure 5: 10 - Year Crude Oil Production, Export and delivery to Local Refineries (Barrels)

3.2.6 Petroleum Products Import and Export

Fig. 6 shows that almost 90% of petroleum products consumed in Nigeria most especially the premium motor spirit (PMS) were imported despite the fact the country has four refineries with a combined capacity of 450,000bbl/d. The utilization of these refineries was shown in Fig. 7 which is less than 25% of

their designed capacities. The effort of government to put these refineries in better position has been proved abortive due to poor maintenance and corruption. The over dependence of Nigerian government on importation of petroleum products especially PMS have led to economic hardship, smuggling of the products, scarcity of the products with high cost.

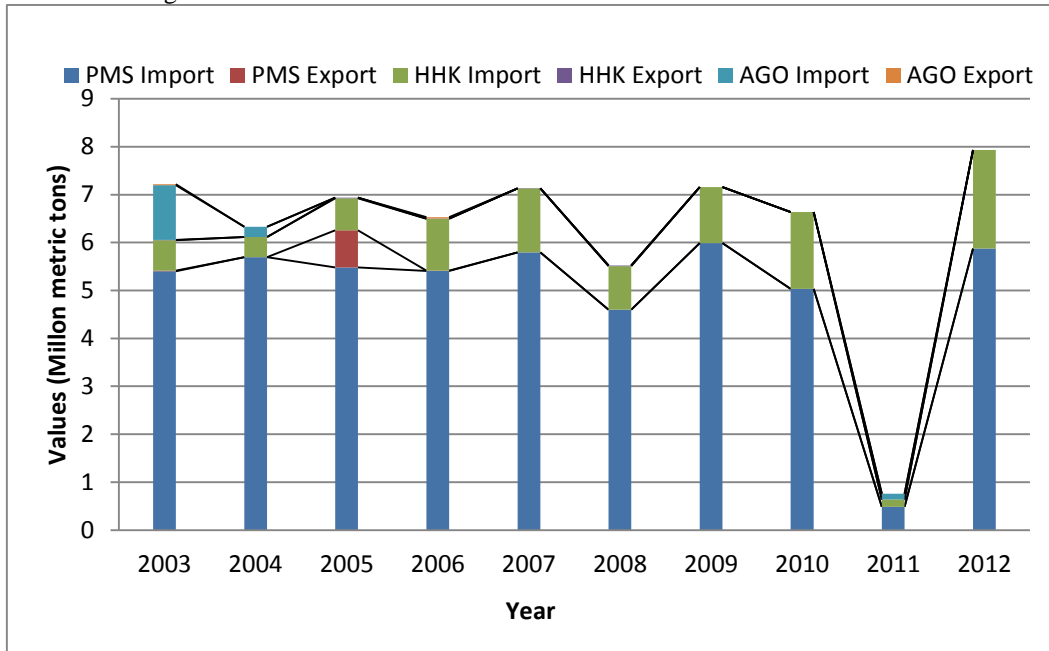


Figure 6: 10 – Year Crude Oil Export

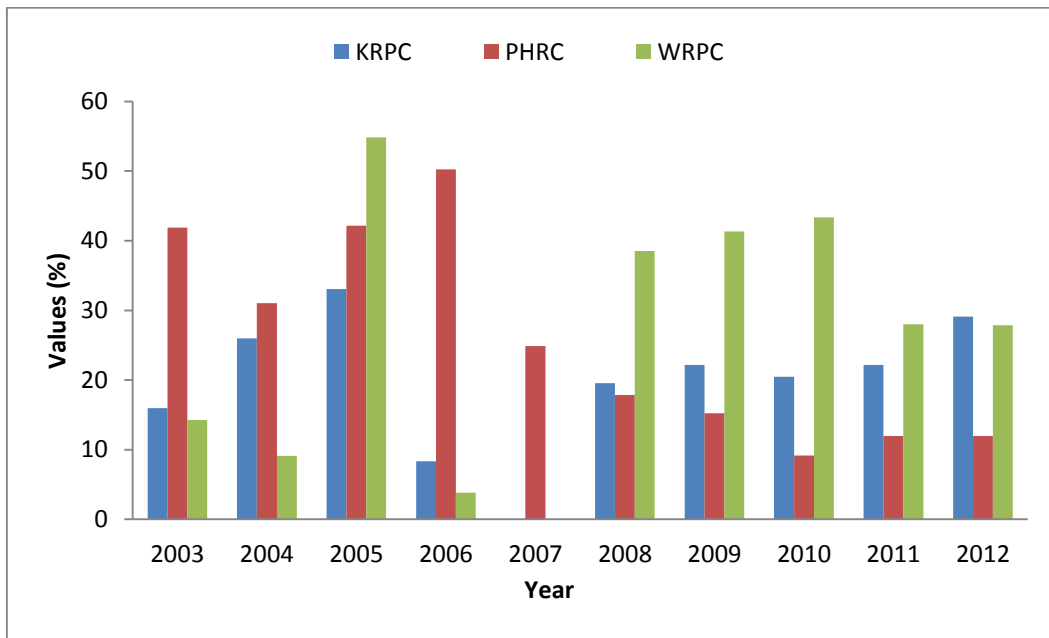


Figure 7 - Years Domestic Refining Capacity Utilization

3.2.7 Sales and Distribution of Domestic Petroleum Products

Figures 8a and 8b show the trend of domestic petroleum products sales and average daily distribution from 2003 to 2012. Premium motor spirit (PMS) recorded the highest sale and daily distribution with a total of 75,861,471.18 (000 litres) and 217,153.75 (000 litres) respectively. The sales of household kerosene (HHK) is more than Automotive gas oil

(AGO) while the distribution of Automotive gas oil (AGO) was greater than that of household kerosene. The irregularity in sales and distribution of the products is as a result of demand. Despite the cost of PMS is cheaper than HHK, the sales and distribution is twice that of HHK because of lack of no alternative for it uses in the country. This is one of the reasons of masses protest whenever there is scarcity or increases in the price of PMS.

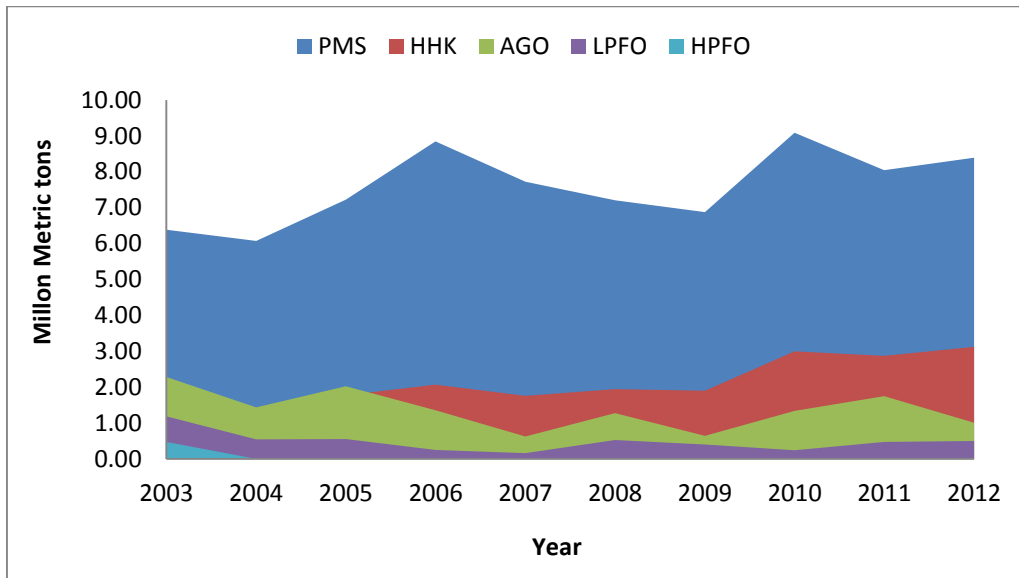


Figure 8a: 10 – Year PPMC Products Sales

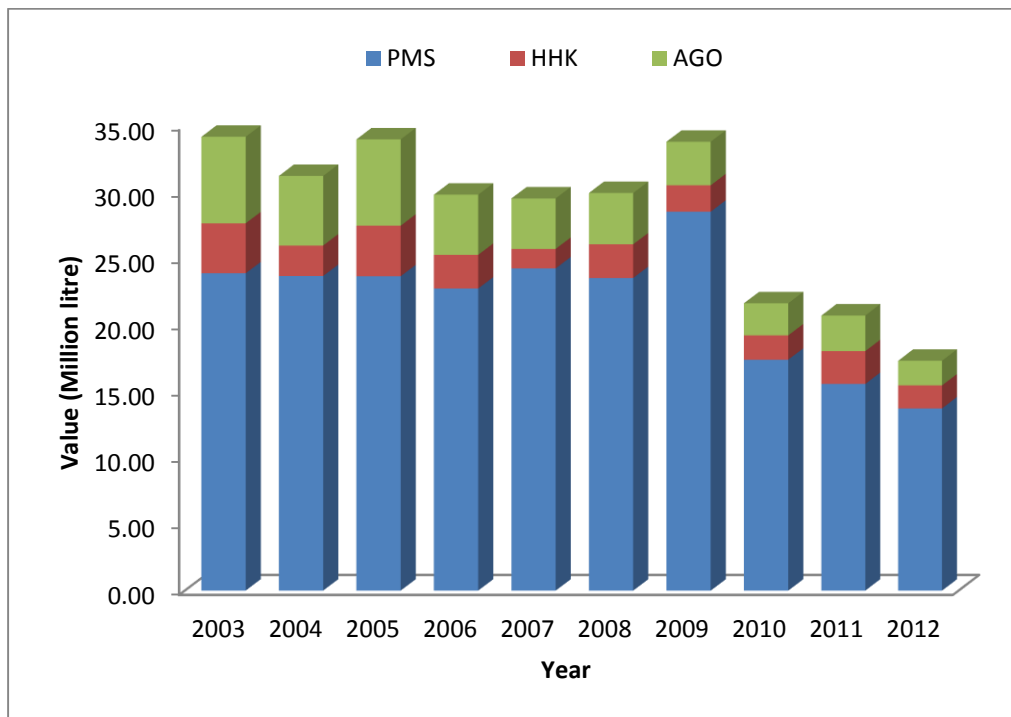


Figure 8a: 10 –Year Average Daily Petroleum Products Distribution

4. CONCLUSION AND RECOMMENDATION

The management of human resources for effectiveness planning and marketing of petroleum products in PPMC Ekpan-Warri has been carried out. It was discovered that technical staff were lacking in operation departments (production, maintenance, engineering/technical services departments) and services department (administration and personnel department) that resulted to irregular supply and marketing of petroleum products. The organization needs additional 443 staff in operation department and about 129 in administration/personnel department in order to attain their 2,500 projected labour forces. This will ensure effective utilization of human resources and allow optimum efficiency

in the supply and marketing of petroleum products by the company. In area of crude oil receipts, processed and products yield reconciliation, it was observed that is below established standards which caused by ineffective human resources management practices and government policies. The aftermath of this led to irregularity in petroleum products supplying, marketing, distribution and consumption. The overall ranking of organization performance is below international standard as a result of imbalance in the system. Therefore, there is need to employ the services of human resource management professionals, consultants and researchers to re-shape directional focus of the company and government should provide adequate fund that will enhance proper manpower utilizations and maximized marketability dividend for the country.

REFERENCES

- [1] P. L. Chang and W.L. Chen, “The Effect of Human Resource Management Practices on Firm Performance,” *International Journal of Management*, 19(4), (2002), 622-38.
- [2] B. Myloni, W.K. Harzing, and H. Mirza, “Host Country Specific Factors and the Transfer of Human Resource Management Practices In Multinational Companies”, *International Journal of Manpower*, 25(6), (2004), 518– 534.
- [3] R.L. Mathis and J.H. Jackson, “*Human Resource Management, Singapore*” (Thomson Asia PTE, Ltd, 2004), pp. 23-65.
- [4] W.F. Cascio, “Managing Human Resource: Productivity, Quality of Work Life, Profits”, (New Delhi, TataMcGraw-Hill, 2006). pp 37-56.
- [5] S.C. Kundo, “Workforce Diversity Status: A Study of Employees’ Reactions’ *Industrial Management & Data Systems*, (2003), 103(4), pp. 215-226.
- [6] C.T. Kulik, “*Human Resource for the Non-HR Manager*”, (New Jersey, Lawrence Erlbaum Associates Publishers, 2004). pp 45-67.
- [7] V. Azolukwam, and S. Perkins, Managerial Perspectives on HRM in Nigeria, *An International Journal of Management*, (16) 1, 2009, pp5-27.
- [8] M.T Tessema, and J.L. Soeters, “Challenges and Prospects of HRM in Developing Countries: Testing the HRP-Performance Link in Eritrean Civil Service”, *International Journal of Human Resource Management*, 17(1), 2006, pp.86–105.
- [9] E. Christopher, and A. Adepoju, “An assessment of the distribution of petroleum products in Nigeria”. *E3 Journal of Business Management and Economics*, 3(6), 2012, 232-241.
- [10] Annual Report of Manpower Development, *Production Programming and Control Department*, (Ekpan-Warri, WRPC Report, 2002), pp 57 - 65.
- [11] Human Resource Utilization, *Warri Refining and Petrochemical Co. Ltd*, (Ekpan-Warri, WRCP Report, 1989), pp 57-65.
- [12] Technical Report and Material Balance, *Production Programming and Control Department*, (Ekpan-Warri, WRPC Report, 2012), pp 1-5, 57- 65.
- [13] NNPC, Distribution of petroleum products in Nigeria, *Annual Statistical Bulletin*, 2012, pp.8-69