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THE LEVEL OF IMPLEMENTATION OF THE DEPARTMENT OF ENERGY PROGRAM FROM THE PERSPECTIVE OF PERSONNEL OF DOE: BASIS FOR SUSTAINABLE AND ACCESSIBLE ENERGY FOR THE PHILIPPINES

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Abstract

Background and Objective: This study is aimed at determining the implementation level of the DOE Programs in terms of Downstream Oil Industry; Alternative Technologies and Fuels; Indigenous Energy Development; Energy Conservation and Efficiency; Renewable Energy; Power and Rural Electrification; and Overall Energy Plans.

Material and Methods: The study is survey type and a questionnaire was distributed among the personnel assigned in the National Capital Region and the 3 divisions of Philippine archipelago namely Mindanao, Visyas, and Luzon, covering the last quarter of 2017 until the second quarter of 2018. The input box was consisted of the determination of the level of implementation of the DOE Programs in philippines. The Process box involved data collecting procedures from the personnel by descriptive evaluative survey supported by interviews as the basis of interpreting the study outcome. Then the data was encoded and the results were subjected to statistical treatment for interpretation and analysis. Finally, the output box pertained to the proposed acceptable and sustainable energy for Philippines.

Results and Conclusion: The overall composite weighted mean of the assessment in all 4 groups were described as "Implemented". Moreover, all the above-mentioned items except number 7 were considered "strength". The perceptions of the level of implementation were identical. This is an indicator that the personnel has the common perception of the implementation of DOE programs.

Keywords: Renewable Energy, DOE programs, Alternative Fuels, Department of Energy; Oil

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1. Introduction

Philippine energy supplies were subdivided by source and by fuel. By source, it incudes imported (44.7%) and indigenous (55.3%). Imported fuel is composed of fuel renewal energy (37.0%), oil-based (34.9%), coal (22.0%), and natural gas (6.01%) (Posadas and Jesus Cristino, 2017). This country was partly depended on the importation, which is composed of almost 50%. Moreover, there are laws governing the petroleum products including the law on alternative energy, thus motivating private sectors to produce their own source of energy, which aims to reduce the importation of petroleum products.

Several laws and policies on the development and production of alternative sources of energy are the Renewable Energy Act of 2008 (RA 9513) and the Biofuels Act of 2006 (RA 9367). The PD 1442 was created to put importance on the geothermal source of energy. EO 462, as amended by EO 232, permitted the development, utilization, exploration, and commercialization of solar, wind and ocean resources for energy generations (Salazar, 2015).

Petroleum product importation is the primary source of crude oil in Philippines. Although several oil explorations have already started, the means to sustain the petroleum needs is still insufficient. The lawmakers, the department of energy and the government had taken a lot of discussions on how to reduce the petroleum product importation and the present study will serve as a basis for sustainable and accessible energy for Philippines from the perspective of DOE personnel.

According to the Department of Energy (DOE), with regard to the energy demand in Philippines, the renewable energy is promising. In addition, according to Transport and Traffic Planners Incorporation, that natural gas is increasingly produced in this country.

The study will utilize the input-Process-Output (IPO) Model to determine the Level of Implementation of the Department of Energy Programs of Philippines in terms of (1) Indigenous Energy Development; (2) Power and Rural Electrification; and (3) Renewable Energy from the perspective of DOE personnel.

As Philippines exhibited positive economic outlook, the Standard and Poors, Fitch and Moody's rating agencies upgraded the credit ratings of the economy to "stable outlook" (high quality with

2. Energy Situation

Philippines total primary energy supply (TPES) in 2013 went up by 2.7% from last year's level reaching 45.0 million tonnes of oil equivalent (mtoe). About 57% of energy supply requirement was produced domestically and largely contributed by renewable energy and coal.

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Renewables, Hydro and Nuclear Energy

Renewable power, excluding hydro, grew by 14.1% in 2016, below the 10-year average, but the largest increment on record. Wind provided more than half of renewables growth, while solar energy contributed almost a third despite accounting for only 18% of the total. The Asia Pacific overtook Europe and Eurasia as the largest producing region of renewable power. Global nuclear power generation increased by 1.3% in 2016. Hydroelectric power generation rose by 2.8% in 2016.

Energy in 2016

On the supply side, the secular movement towards renewable energy, driven by environmental needs and technological advances. And on the demand side: a slowing in overall energy growth as it is used ever more efficiently, and the shift in the center of gravity to fast-growing developing economies, led by India and China. Renewable energy despite having a share of only 4% was the fastest growing energy source, accounting for almost a third of the increase in primary energy, in 2016. Oil and natural gas provided the largest contribution to growth, although for gas this was considerably slower than its 10-year average.

Non Fossil Fuels

The leading light of the energy transition is, of course, renewable power which continued to grow rapidly last year, led by wind (15.6%, 131 TWh) and solar (29.6%,77 TWh). Although the share of renewable power within primary energy edged up only slightly to 3.2%, its strong growth meant it accounted for over 30% of the increase in primary energy. The more modular nature of solar power, together with its steeper learning curve has allowed it to spread more quickly. Moreover, the fact that the transfer of wind and solar technology is not subject to onerous security restrictions has helped their rapid diffusion relative to nuclear power.

Alternative energy sources in Philippines

Policy initiatives were focused on the implementation and programs for production of geothermal energy, biomass, hydroelectric power, wind energy, natural gas, autogas, solar energy, bioethanol, and biodiesel, which together include a significant portion of the overall forms of alternative energy sources in Philippines. Regression results proved that the production of geothermal energy, biomass, and hydroelectric power, contributed to the reduction in total crude oil imports.

It is recommended that DOE must look and avail financing programs to acquire new or rebuilt power plants to accelerate the projects in developing biofuels. BSP must facilitate financing programs and investment opportunities to fund biofuels' projects. Furthermore, DOE should conduct seminars and conferences to educate the consumer sector and the general public on how they can help address the energy

crisis. DOF and BSP must establish financing programs and investment opportunities to fund alternative energy source projects. Moreover, top corporations like San Miguel Corp., PLDT, Ayala Corp., Nestle Philippines, and JG Summit Holdings must render initiative to offer free access to an alternative energy source to easily shift the country's demand from crude oil-based power to the low-cost indigenous alternative energy source.

Philippines' government methods to increase fuel independence

In philippines, the government contended to denounce dependence on crude oil importation and expanded reliance on renewable energy, like biodiesel. Furthermore, biodiesel industry had depicted to diminish the import of fuels to protect the environment and public health and also to provide livelihood opportunities; alleviating poverty, securing energy stability, and maintaining economic development (Elauria, 2011) as cited by (Salazar,2015). Philippines instigated to subsidize loans to transfigure engines for public transport to less costly LPG (World Bank, 2008).

3. Methodology

Research Design

This study employed a descriptive comparative evaluative design using a cross-sectional survey. Information was collected at just one point in time from a pre-determined sample of the personnel. A mixed research methodology was used, employing both qualitative and quantitative methods. This included governing local and international laws, policies, rules and related issuances; document review, guided interview, plans and programs of stakeholders, and survey questionnaires to determine the practical experience of the respondents on the Level of Implementation of the Department of Energy Programs, this will serve as a basis for accessible and sustainable energy for Philippines.

Population and Sampling

Respondents were composed of the personnel of 4 groups in the Department of Energy consisting of the National Capital Region and in the three archipelagic dimensions of Philippines, i.e. the Mindanao, Visayas, and Luzon field offices.

Sampling Size and Sampling Technique

Sampling Technique: The researcher employed a purposive sampling technique, which involved selecting a group of personnel who had knowledge about the population and study (Fraenkel and Wallen, 1994). Making generalizations in this sampling method is easier (http://www.statisticshowto.com/purposive-sampling, retrieved March, 2010).

Sample Size: Sample Size was the equivalent of the sampling unit which corresponded to the smallest unit to which sample was selected and drawn. The number of respondents (DOE personnel) will depend on the population of respondents assigned in the division/dimension of Philippines. Data on the population will be determined by the researcher upon visitation of the field office.

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Instrumentation

Data was collected through a modified self-constructed questionnaire anchored on the Department of Energy Programs. The questionnaire will be composed of two parts. The first part is the profile of respondents of the study. The second part, pertaining to question in the level of Implementation of the Department of Energy (DOE) programs, in terms of (1) Indigenous Energy Development; (2) Power and Rural Electrification; and (3) Renewable Energy and (4) Over-all Energy Plans and Programs.

The written survey questionnaire was validated before distribution to the respondents by referral to a government, statistician, and industry experts and the face validation of the adviser.

In addition to the written survey questionnaires, other instruments to be used for data collection will be unstructured interviews and records

Data collecting and Procedures

Ethical practices were fully and duly observed in the conduct of collecting all data and information.

For the primary data, the researcher used a modified self-constructed questionnaire. A survey on the Level of Implementation of the Department of Energy Programs was conducted with the questionnaire. This was supported by a guided interview.

Request from the Respondent. The appropriate request of the researcher to conduct a written survey and oral interview with the respondent will be properly discussed before the survey will be conducted.

Approval by the Respondent: After the above request was duly approved by the respondent, the survey form was handed -out to the respondent to answer.

Statistical Treatment

Data that were collected and classified, tallied and tabulated. It was then be subjected to appropriate statistical treatment for the researcher to be able to analyze and interpret the findings.

Five Points Scale: To further interpret the mean and weighted mean a five-point scale /rubric was used, thus below are the verbal interpretation on the level of implementation on the DOE Programs.

Table 1: The levels of implementation of the Department of Energy Programs

Option	Range	Verbal Description	Interpretation

5	4.51-5.00	Highly Implemented (HI)	It means that 81% - 100% and/or, almost all of the Department of Energy's Programs been Implemented because the programs are clear, flexible, specific, uniform, reliable, very much practical
4	3.51-4.50	Implemented (I)	It means that there are 61% -80% Implementation of the Department of Energy's Programs, thus minimal ambiguities and doubts on the appropriateness, uniformity, and flexibility in the implementation thereof.
3	2.51-3.50	Moderately Implemented (MI)	It means that there are 41% -60% Implementation of Department of Energy's Programs, this is due, too few ambiguities and doubts on the appropriateness, uniformity, and flexibility in the implementation thereof.
2	1.21-2.50	Less Implemented (LI)	It means that only 21% - 40% Implementation or a few of the Department of Energy's Programs because there are many problems in the implementation thereof.
1	1.00-1.50	Not Implemented (NI)	It means that 0% - 20 % implementation to the Department of Energy's Programs as it is basically not yet applicable and not yet appropriate.

4. FINDINGS

The respondents were composed of four groups of the DOE personnel to present the findings; the proponent presented the results to expound the answers of the statement of the problems.

Table 2: Distribution of Respondents According to Job Category

Job Category	Frequency	Percentage
Supervisor/Technical Officer	20	51%

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Non-Technical/Non Officer/Non Supervisor	19	49%
Total	39	100%

Table 2 shows the distribution of respondents according to job category.

Table 3: Assessment on Downstream Oil Industry

No.		Downstream Oil Industry	NCR	Luzon	Visayas	Mindanao	Composite Mean	Verbal Interpretation
1		Ensure sufficiently and quality supply of oil products	3.70	3.60	4.10	4.20	3.90	Implemented
2		Promote transparency in oil prices, including biofuel components	3.60	3.56	3.89	4.10	3.79	Implemented
3		Mitigate impact of high oil prices	3.60	3.90	3.70	4.10	3.83	Implemented
4		Safety and security on energy infrastructure & production areas	3.82	3.90	3.85	3.70	3.82	Implemented
5		Implementation of Downstream Oil Deregulation Law	3.90	4.10	4.20	4.09	4.07	Implemented
		Overall Composite Mean	3.77	3.97	3.92	3.96	3.91	Implemented

Table 3 presents the respondents' assessment of the implementation of the Department of Energy Programs. The over-all composite weighted mean of Assessment on downstream oil industry of NCR respondents is 3.77 and described as "Implemented". Moreover, the over-all composite weighted mean of Assessment on downstream oil industry of Luzon respondents is 3.97 and described as "Implemented". Moreover, the over-all composite weighted mean of Assessment on downstream oil industry of Visayas respondents is 3.92 and described as "Implemented". Moreover, the over-all composite weighted mean of Assessment on downstream oil industry of Mindanao respondents is 3.96 and described as "Implemented". And the overall composite weighted means of the three groups of respondents are 3.91 and described as "Implemented".

Table 4: Assessment on Alternative Fuels and Technologies

No	Alternative Fuels and Technologies	NCR	Luzon	Visayas	Mindanao	Composite Mean	Verbal Interpretation
1	Proactive promotion of alternative fuels for transport to reduce dependence on imported oil, i.e. CNG, auto LPG, LNG, biofuels, e-vehicles	3.60	4.00	4.50	4.40	4.13	Implemented
2	Development of alternative energy technology and infrastructures, i.e. pipelines, refilling stations, biofuels	3.78	4.00	3.90	4.30	4.00	Implemented

	refining plants, and conversion shops						
3	Implementation of Biofuels Act	4.30	4.00	4.10	4.10	4.13	Implemented
Overall Composite Mean		3.89	4.00	4.17	4.27	4.08	Implemented

Table 4 presents the respondents' assessment of the implementation of the Department of Energy Programs. The over-all composite weighted mean of Assessment on Alternative Fuels and Technologies of NCR respondents is 3.99 and described as "Implemented". Moreover, the over-all composite weighted mean of Assessment on Alternative Fuels and Technologies of Luzon respondents is 3.89 and described as "Implemented". Moreover, the over-all composite weighted mean of Assessment on Alternative Fuels and Technologic of Visayas respondents is 4.00 and described as "Implemented". Moreover, the over-all composite weighted mean of Assessment on Alternative Fuels and Technologies of Mindanao respondents is 4.17 and described as "Implemented". And the overall composite weighted means of the three groups of respondents are 4.27 and described as "Implemented".

Table 5: Assessment on Indigenous Energy Development

No	Indigenous Energy Development	NCR	Luzon	Visayas	Mindanao	Composite Mean	Verbal Interpretation
1	"Ensure energy security by increasing coal production	3.70	3.76	1.10	3.70	3.82	Implemented
2	"Ensure energy security by increasing oil and gas exploration	3.90	3.87	4.00	4.40	4.04	Implemented
3	"Ensure energy security thru intensive RE development, i.e. geothermal, hydro, solar, wind, biomass, ocean	3.70	4.00	3.90	4.05	3.91	Implemented
4	"Increase investments thru Energy Contracting Round	4.00	3.71	5.54	3.70	3.74	Implemented
5	"Incentives for Energy Developers	4309	4.00	4.10	4.30	4.12	Implemented
6	"Safety and security on energy infrastructure & production areas	3.81	3.46	4.00	3.56	3.71	Implemented
Overall Composite Mean		3.93	3.90	3.85	4.02	3.92	Implemented

Table 5 presents the respondents' assessment of the implementation of the Department of Energy Programs. The over-all composite weighted mean of Assessment on Indigenous Energy Development of NCR respondents is 3.93 and described as "Implemented". Moreover, the over-all composite weighted mean of Assessment on Indigenous Energy Development of Luzon respondents is 3.90 and described as "Implemented". Moreover, the over-all composite weighted mean of Assessment on Indigenous Energy Development of Visayas respondents is 3.85 and described as "Implemented". Moreover, the over-all Composite weighted mean of

assessment on Indigenous Energy Development of Mindanao respondents is 4.02 and described as "Implemented". And the overall composite weighted means of the three groups of respondents are 3.92 and described as "Implemented".

Table 6: Assessment on Energy Efficiency and Conservation

NO.	Energy Efficiency and Conservation	NCR	Luzon	Visayas	Mindanao	Composite Mean	Verbal Interpretation
1	“Promote energy conservation and efficient technologies	4.00	4.00	4.20	4.10	4.08	Implemented
2	"Effectiveness of Information Education Communication 91EC) on Energy Efficiency and Conservation (i.e. seminars, print and TV ads, voluntary agreements)	3.70	4.00	3.87	4.10	3.92	Implemented
3	"Effectiveness of Energy Labeling and Standardization	4.00	3.94	4.00	4.11	4.01	Implemented
4	“Recognition and Awards for Energy Efficiency and Conservation	4.00	4.00	3.67	4.00	3.92	Implemented
5	" Promotion of Energy Audit	4.10	4.00	4.12	4.23	4.11	Implemented
6	“Advocacy for an Energy Conservation Law	4.00	3.67	4.00	3.88	3.89	Implemented
Overall Composite Mean		4.03	3.98	3.93	4.11	4.01	Implemented

Table 6 presents the respondents' assessment of the implementation of the Department of Energy Programs. The over-all composite weighted mean of Assessment on energy efficiency and conservation of NCR respondents is 4.03 and described as "Implemented". Moreover, the over-all composite weighted mean of Assessment on energy efficiency and conservation of Luzon respondents is 3.98 and described as "Implemented". Moreover, the over-all composite weighted mean of Assessment on energy efficiency and conservation of Visayas respondents is 3.93 and described as "Implemented". Moreover, the over-all composite weighted mean of assessment on energy efficiency and conservation of Mindanao respondents is 4.11 and described as "Implemented".

And the overall composite weighted means of the three groups of respondents are 3.96 and described as "Implemented".

Table 7: Assessment of Renewable Energy

No	Renewable energy	NCR	Luzon	Visayas	Mindanao	Composite Mean	Verbal Interpretation
1	"Implementation of RE policy mechanisms, i.e. FIT, RPS, Net Metering, Green Energy Option	4.00	3.95	3.89	3.92	3.94	Implemented
2	"Update of RE Resource Inventory	3.87	4.00	4.00	4.11	4.00	Implemented
3	"Promotion of Investments in RE	4.10	4.30	4.00	4.23	4.16	Implemented
4	"Implementation of RE Law	3.53	4.00	3.87	4.00	3.85	Implemented
Overall Composite Mean		3.82	4.15	3.94	4.12	4.00	Implemented

Table 7 presents the respondents' assessment of the implementation of the Department of Energy Programs. The over-all composite weighted mean of Assessment on Renewable Energy of NCR respondents is 3.82 and described as "Implemented". Moreover, the over-all composite weighted mean of Assessment on Renewable Energy of Luzon respondents is 4.15 and described as "Implemented". Moreover, the over-all composite weighted mean of Assessment on Renewable Energy of Visayas respondents is 3.94 and described as "Implemented". Moreover, the over-all composite weighted mean of assessment on Renewable Energy of Mindanao respondents is 4.12 and described as "Implemented". Moreover, the overall composite weighted means of the three groups of respondents are 3.96 and described as "Implemented".

Table 8: Assessment of Power and Rural Electrification

No	Power and Rural Electrification	NCR	Luzon	Visayas	Mindanao	Composite Mean	Verbal Interpretation
1	"Energy access through barangay, sitio and household electrification program	4.00	3.90	3.87	4.10	3.97	Implemented
2	" Stable electricity supply in Luzon, Visayas, and Mindanao	4.00	4.00	3.84	4.11	3.99	Implemented
3	"Promote and monitor implementation of Power Supply Projects	3.83	3.89	4.00	3.65	3.84	Implemented
4	"Nuclear energy as a long-term option for electricity power supply	4.10	4.00	4.12	4.00	4.06	Implemented
5	"Implementation of Electric Power Industry Reform Act	4.00	3.67	4.00	3.88	3.89	Implemented
Overall Composite Mean		3.98	3.85	4.04	3.84	3.93	Implemented

Table 8 presents the respondents' assessment of the implementation of the Department of Energy Programs. The over-all composite weighted mean of Assessment on Power and Rural Electrification of NCR respondents is 3.98 and described as "Implemented". Moreover, the over-all composite weighted mean of Assessment on Power and Rural Electrification of Luzon respondents is 3.85 and described as "Implemented". Moreover, the over-all composite weighted mean of Assessment on Power and Rural Electrification of Visayas respondents is 4.04 and described as "Implemented". Moreover, the over-all composite weighted mean of assessment on Power and Rural Electrification of Mindanao respondents is 3.84 and described as "Implemented". In addition, the overall composite weighted means of the three groups of respondents are 3.93 and described as "Implemented".

Table 9: Result of Assessment on Over-all Energy Plans and Programs

ITEM NO.	Overall Energy Plans and Programs	NCR	Luzon	Visayas	Mindanao	Composite Mean	Verbal Interpretation
1	"Consistency of Philippine Energy Plan with Philippine Development Plan (PDP)	3.50	3.22	3.21	2.87	3.20	Moderately Implemented
2	"Effectiveness of Energy Information Websites, i.e. kuryente.org.ph and wattmatters.org.ph	3.11	3.45	3.21	3.10	3.22	Moderately Implemented
3	"Partnership of DOE with multi-stakeholders, i.e. NGAS, LGU, CSOs, Academe	3.22	3.49	3.47	3.20	3.35	Moderately Implemented
4	"Investment promotion for local and international players	3.44	3.19	3.16	3.20	3.25	Moderately Implemented
5	" Conduct of public consultations on energy issuances	3.45	3.21	3.45	3.10	3.30	Moderately Implemented
Overall Composite Mean		3.37	3.30	3.36	3.17	3.30	Implemented

Table 9 presents the respondents' assessment of the implementation of the Department of Energy Programs. The over-all composite weighted mean of Assessment on Over-all Energy Plans and Programs of NCR respondents is 3.37 and described as "Moderately Implemented". Moreover, the over-all composite weighted mean of Assessment on Over-all Energy Plans and Programs of Luzon respondents is 3.30 and described as "Moderately Implemented". Moreover, the over-all composite weighted mean of Assessment on Over-all Energy Plans and Programs of Visayas respondents is 3.36 and described as "Moderately Implemented". Moreover, the over-all composite weighted mean of assessment, on Over-all Energy Plans and Programs of Mindanao respondents is 3.17 and described as "Moderately Implemented". Moreover, the overall composite

weighted means of the three groups of respondents are 3.96 and described as "Implemented".

Table 10: Summary of Results of Assessment of DOE Personnel

ITEM NO.	Summary of Results	NCR	Luzon	Visayas	Mindanao	Composite Mean	Verbal Interpretation
1	Indigenous Energy Development	3.93	3.90	3.85	4.02	3.92	Implemented
2	Power and Rural Electrification	3.98	3.85	4.04	3.84	3.93	Implemented
3	Renewable Energy	3.82	4.15	3.94	4.12	4.00	Implemented
4	Overall Energy Plans and Programs	3.37	3.30	3.36	3.17	3.30	Moderately Implemented

Table 10 presents a summary of respondents' assessment of the implementation of the Department of Energy Programs. The verbal interpretation of the results of Assessment of Indigenous Energy Development; Power and Rural Electrification; and Renewable Energy described as “Implemented”. Moreover, The verbal interpretation of the results of Overall Energy Plans and Programs were described as: “Moderately Implemented”

Table 11: Summary of the Results of Assessment of DOE Personnel

No	Summary of Results	NCR	Luzon	Visayas	Mindanao	Composite Mean	Remarks
1	Alternative Fuels and Technologies	3.89	4.00	4.17	4.27	4.08	Strength
2	Downstream Oil Industry	3.77	3.97	3.92	3.96	3.91	Strength
3	Energy Efficiency and Conservation	4.03	3.98	3.93	4.11	4.01	Strength
4	Indigeneous Energy Development	3.93	3.90	3.85	4.02	3.92	Strength
5	Power and Rural Electrification	3.98	3.85	4.04	3.84	3.93	Strength
6	Renewable Energy	3.82	4.15	3.94	4.12	4.00	Strength
7	Overall Energy Plans and Programs	3.37	3.30	3.36	3.17	3.30	Strength
Overall Composite Mean		3.83	3.88	3.89	3.93	3.88	Strength

Table 12 presents a summary of respondents' assessment of the implementation of the Department of Energy Programs. Based on the table above, items 1, 2, 3, 4, 5 and 6 are considered the strength and item 7 is considered weak.

Significant differences in the responses of the group of respondents as to the Strengths and Weaknesses of the Level of Implementation of the Department of Energy Programs

The ANOVA was used to determine the significant difference in the responses of the group of respondents on the Level of Implementation of the Department of Energy Programs

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Table 12: The Result of Test of Significance

Anova: Single Factor
SUMMARY

Groups	*Count*	Sum	Average	Variance
Column 1	*7*	26.79	3.82714	0.048557
Column 2	*7*	27.1467	3.8781	0.074492
Column 3	*7*	27.21	3.88714	0.064724
Column 4	*7*	27.4867	3.92667	0.130633

ANOVA

Source of Variation	SS	df	Ms	F	p-value	F crit
Between Groups	0.03518254	3	0.01173	0.147328	0.9303886	3.0087866
Within Groups	1.9104381	24	0.0796			
Total	1.94562063	27				

The result shows a p-value of (p=0.9303) is an indicator that there is no significant difference between the two mean values at 5% significant level. The perceptions of Mindanao, Luzon, Visayas and NCR on the level of implementation are identical.

5. Discussion

Significant commonalities and differences do exist in the respondent's assessment

The over-all composite weighted mean of Assessment of NCR, Luzon, Visayas, Mindanao respondents are 3.87, 3.82, 3.99, and 3.84 respectively and described as "Implemented". Moreover, the overall composite weighted means of the four groups of respondents are 3.88 and described as "Implemented".

The Strengths and Weaknesses in the Implementation of the Department of Energy Programs

The result reveals that Alternative Fuels and Technologies, Downstream Oil Industry, Energy Efficiency and Conservation, Indigenous Energy Development, Power and Rural Electrification and Renewable Energy are considered the strength and Over-all Energy Plans and Programs are considered weak.

Significant differences in the responses of the group of respondents as to the Strengths and weaknesses of the Level of Implementation of the Department of Energy Programs

From the findings of results, the result shows a p-value of (p=0.9303) is an indicator that there is no significant difference between the two mean values at 5%

significant level. The perceptions of NCR, Luzon, Visayas, and Mindanao on the level of implementation are identical.

Significant commonalities and differences do exist in the respondents' assessment

From the findings of the result, the administrator and DOE personnel, the perceptions of NCR, Luzon, Visayas, Mindanao on the level of implementation are identical and the hypothesis is not rejected. This is an indicator that the administrators and DOE personnel have the common perception of the implementation of DOE programs.

6. Conclusions

The respondent's assessment on the level of implementation of Downstream Oil Industry; Alternative Technologies and Fuels; Indigenous Energy Development; Energy Conservation and Efficiency; Renewable Energy; Power and Rural Electrification; and Over-all Energy Plans are already found out. Majority of the assessment is on the implemented interpretation, which means that there are 61% - 80% Implementation of the Department of Energy's Programs, thus minimal ambiguities and doubts on the appropriateness, uniformity, and flexibility in the implementation thereof. There are also some items that belong to moderately implemented interpretation which means that there are 41% - 60 % Implementation of Department of Energy's Programs, this is due, too few ambiguities and doubts on the appropriateness, uniformity, and flexibility in the implementation thereof. It is also found out the strength and weaknesses in the Implementation of the Department of Energy Programs. Majority of the assessment is considered the strength and some are considered weak which are considered for further improvement and recommendations.

And finally, there was no significant difference between the sample mean values which means that the perception of Mindanao, Luzon, Visayas and NCR on the level of implementation are identical which each other.

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