

# CHAPTER SEVEN

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## 6 CONCLUSION & RECOMMENDATIONS

It is often assumed that benchmarking or performance evaluation is an essential technique only used in small number of businesses. But it can be used in all types of businesses. It allows the businesses or the company to strive for continuous improvement.

In this research various benchmarking methods were investigated for their pros and cons and Data Envelopment Analysis (DEA) method was selected. Table 6.1 shows the selected Input Variables and Output variables for the DEA base model.

**Table 6.1 Selected Input and output Variables for the DEA base model**

<b>Input Variables</b>	<b>Output Variables</b>
Number of Auto trippings	Feeder length
Feeder off duration due to auto trippings	
Number of manual trippings	
Peak Power loss	
maximum Voltage Drop percentage	

Thirty two medium voltage feeders of Western Province South –I of CEB were evaluated in this research. Feeders were categorized into two categories as urban and rural considering the Homogeneity of feeders. After the evaluation feeders were categorized into five categories called robustly efficient, marginally efficient, marginally inefficient, significantly inefficient and distinctly inefficient. Table 6.2 shows the feeders in each category.

**Table 6.2 Feeders in each feeder category**

<b>Item</b>	<b>Nos. Of Feeders</b>	<b>Feeders of Urban category</b>	<b>Feeders of Rural category</b>
Robustly efficient	9	Dehi F1, Dehi F3, Panni F3, Panni F5, Rath F1,	Matu F2, Matu F3, Matu F4, Matu F7
Marginally efficient	5	Dehi F5, Dehi F8, Rath F6,	Pana F5, Matu F5,
Marginally inefficient	0		
Significantly inefficient	2	Rath F2, Rath F8	
Distinctly inefficient	16	Dehi F6, Dehi F7, Panni F6, Rath F3, Rath F4, Rath F7, Rath F9,	Pana F1, Pana F2, Pana F3, Pana F4, Matu F1, Matu F6, Matu F8, Matu F9, Matu F10

Other than that, obtained results from the study for few feeders were compared with the real condition of the feeder.

Finally it is recommended to do in-depth analysis for inefficient feeders considering the practical constraints, field issues and the efficiency targets assigned by the study to improve their relative performances.

Same study is recommend for all Distribution provinces in Sri Lanka & give targets to feeders to be achieved. The studies can be done annually or once in two years (Parallel to Medium voltage Distribution Development Plan).

Steps shown in following flow chart (figure 6.1) can be used as a guide line/methodology for benchmark medium voltage feeders in Sri Lanka.

Similar type of model can be developed to Benchmark 132/ 220 kV Transmission Lines of the country.

## **6.1 Future work:**

Practical solutions needed to be obtained for inefficient feeders and needed to implement those solutions. After that same benchmarking study shall be carried out and shall find the relative performance increment of those feeders.

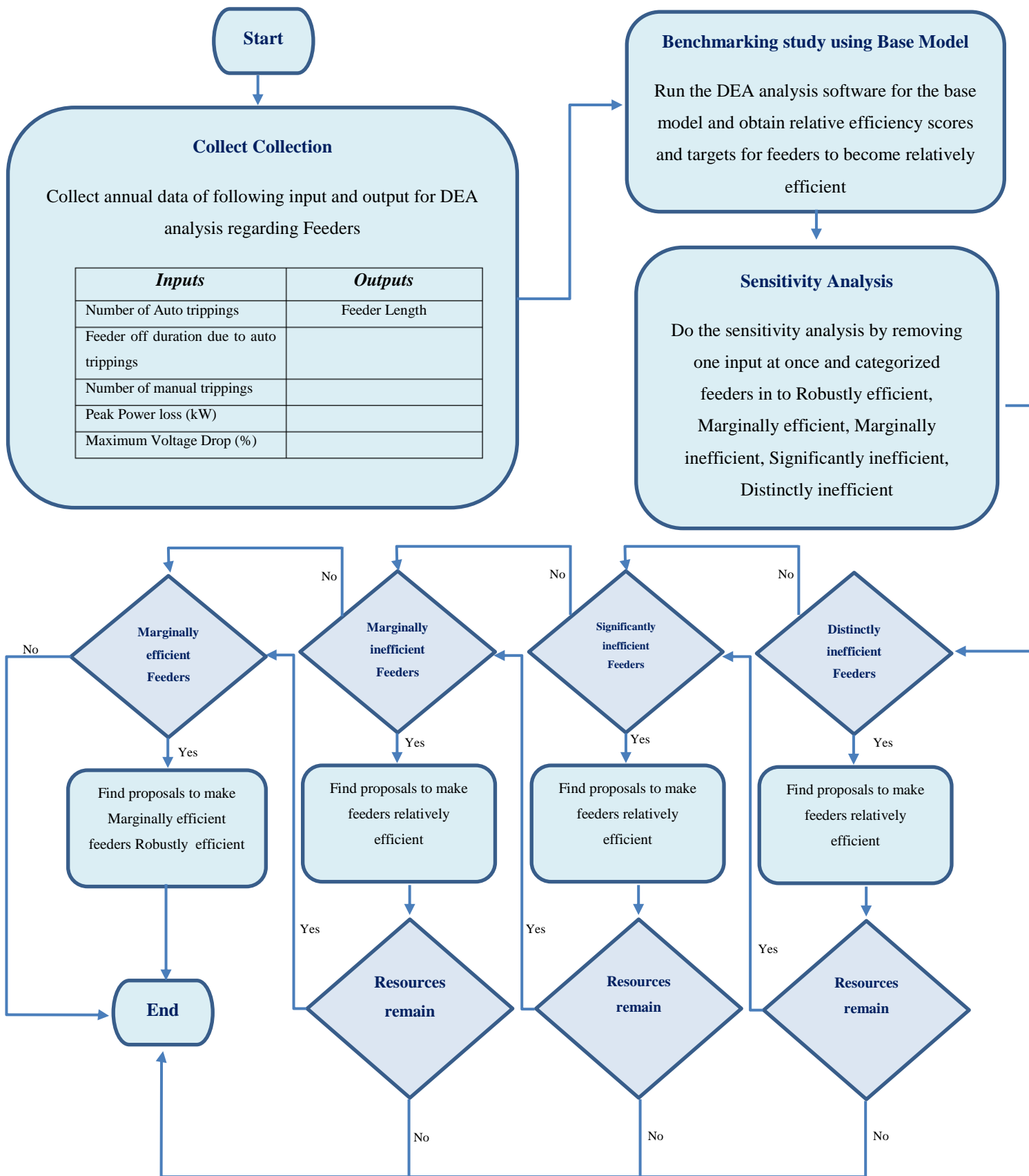


Figure 6.1: recommended methodology to carry out the Benchmarking study

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