

day life use. But on the other hand, water revenues will decrease for the next five years, and this contrary with the previous observation about water consumption, while the nature relationship between water consumption and water revenue is positive relationship, which means when water demand increases, water revenues also should increase and vice versa.

But water revenues are decreasing maybe due to several reasons, (1) The suffocating economic crisis, which affecting directly on people financial status, which lets them not pay for the water voucher produced by Khan Younis municipality, (2) blockage from sea, land and air which effect on the society projects and income, (3) Political differences and their impact on employees' salaries, so much so that a class of employees received 40% of the salary for a long time, (4) Khan Younis municipality do not count the quantities of water it's buildings consume and which definitely affect their revenues in return. All these reasons and other effects on the municipality revenues from water service.

6. Conclusion

In this paper, the water consumption used by citizen and revenues were forecasted in the medium term future.

Four main forecasting algorithms were used ARIMA, Hybrid ARIMA, SSA and Linear Regression. We applied them on dataset collected from Khan Younis municipality (KHM)-department of customer services. We found Hybrid ARIMA is the best algorithm which gave the Mean Absolute Percentage Error (MAPE) of 17.38%. In general, for the next 5 years water consumption will increase with 8.4% (1.7% per year) but the water revenue will be decreased with 3.8% (0.76% per year).

7. Future Work

As future work, we can use long term forecasting approaches to predict the water consumption and water revenue for more than 10 years. Also, we can forecast data using more variables and attributes such as population.

More deep learning models can be used specially to solve our problem or achieve our goal. Also, other resources can be forecasted in Khan Younis municipality KHM.

This model could be applied for other municipalities datasets to forecast water demand and water revenue or any other resources available. Finally, we can use forecasting methods to predict individual water bills.

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