

## CHAPTER IV CONCLUSION

### A. Conclusion

The International Invention Competition for Young Moslem Scientists (IICYMS) 2023 is an event organized by the Indonesian Young Scientist Association (IYSA) conducted both online via the Zoom platform and offline at UIN Sunan Gunung Djati, Bandung. The event took place from 23<sup>rd</sup> of May to 26<sup>th</sup> of May, 2023, and included webinars, inventor talks, and presentations of scientific innovations across eight categories of scientific fields. The competition attracted a total of 321 participating teams from countries including Iran, Turkey, Malaysia, Thailand, the Philippines, India, Kazakhstan, China, Hong Kong, Egypt, Indonesia, Japan, Vietnam, and Makau.

The team presenting the innovation titled “Aromatherapy Candle from Used Cooking Oil Recycle as an Innovation to Protect the Environment.” This innovative idea utilizes waste cooking oil as the main material for producing environmentally friendly aromatherapy candle. By processing waste that has the potential to pollute the environment, this innovation provides a concrete solution to reduce the negative impacts of used cooking oil while also creating a valuable product. This innovation successfully earned a Silver Medal in the Category of Environmental Science, which serves as recognition of the team's efforts to make a tangible contribution to environmental preservation.

This achievement received various forms of appreciation, including awards in the form of incentives, media coverage, and opportunities for collaboration with

academia and industry. The recognition also strengthens the author's and the team's commitment to continue innovating in addressing environmental issues. The author hopes that this accomplishment can inspire the younger generation, particularly students University of Jenderal Soedirman, to pursue meaningful achievements and create innovations that have a positive impact on the environment and society at large.

### **B. Limitation of the Innovation**

The significant limitation of this innovation lies in the inability to fully control the quality and characteristics of the used cooking oil obtained as raw material. Variations in the source, type of oil used, cooking duration, and frying temperatures significantly impact the quality of used cooking oil, including its odor, color, and chemical composition. These factors pose challenges in standardizing the production process and ensuring consistent quality of the aromatherapy candle.

Sourcing used cooking oil from different suppliers, such as home industries, factories, or collecting it from residues, introduces variability that may affect the effectiveness of the purification and processing steps. This inconsistency could lead to differences in the final product's appearance, fragrance, and burning efficiency. Overcoming this limitation requires further research and development to establish robust purification techniques and quality control measures capable of handling diverse used cooking oil characteristics.