

# **SATHYABAMA**

Institute of Science and Technology

**Centre for Waste Management  
Centre of Excellence for Energy Research  
Centre for Nanoscience and Nanotechnology  
Department of Electronics and Communication Engineering**

**Science Technology and Innovation Hub in Kattumannar Koil, C D Block,  
Cuddalore District, Tamil Nadu**

**Supported by  
Department of Science and Technology – New Delhi**

**10 days Training Programme Series 1 - Report**

**Village: Eachampoondi**

**Duration: 20/05/2022 to 02/06/2022**

22 beneficiaries were identified for the ten days of the training programme. The training spanned from 20<sup>th</sup> May 2022 to 2<sup>nd</sup> June 2022. Detergent Soap making and lab-scale biodiesel production were the interventions for which the beneficiaries were trained. The training materials were provided. Waste Cooking oil was used as raw material for both products. The training was given by Mr A Santhosh, the Project coordinator and Mr S.Sanjay Kumar, Project Assistant of the STI Hub established at Cuddalore.



**20.05.2022**

20 beneficiaries participated on the first day of the programme. 13 beneficiaries were trained for making detergent soap and the remaining 7 beneficiaries were trained for lab-scale biodiesel production. On day 06 soaps were made and 1 L biodiesel was produced. The soaps were

subjected to curing for 15 days period. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The participants were provided with safety coats, gloves, masks and identity badges. An attendance roll was prepared, and an announcement was made that attendance was compulsory on all days of training.



**23.05.2022**

18 beneficiaries participated on the second day of the programme. 12 beneficiaries were continued to be trained in detergent soap making and the remaining 6 beneficiaries were trained for lab-scale biodiesel production. On day 25 soaps were made, and 1L biodiesel was produced. The significance of Transesterification of raw oil, separation of product and by-product and washing of biodiesel were explained. The soaps were subjected to curing for 15 days period.



**24.05.2022**

18 beneficiaries participated on the third day of the programme. 12 beneficiaries were trained for making detergent soap and 6 beneficiaries were trained for lab-scale biodiesel production. On day 61 soaps were made, and 1 L biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**25.05.2022**

19 beneficiaries participated on the fourth day of the programme. 13 beneficiaries were trained for making detergent soap and 6 beneficiaries were trained for lab-scale biodiesel production. On day 75 soaps were made, and 1 L biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



### **26.05.2022**

18 beneficiaries participated on the fifth day of the programme. 13 beneficiaries were trained for making detergent soap and 5 beneficiaries were trained for lab-scale biodiesel production. On day 86 soaps were made, and 1 L of biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



### **27.05.2022**

18 beneficiaries participated on the sixth day of the programme. 11 beneficiaries were trained for making detergent soap and 7 beneficiaries were trained for lab-scale biodiesel production. On day 36 soaps were made, and 1L biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.





### 30.05.2022

18 beneficiaries participated on the seventh day of the programme. 12 beneficiaries were trained for making detergent soap and 6 beneficiaries were trained for lab-scale biodiesel production. On day 36 soaps were made, and 1L biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



### 31.05.2022

17 beneficiaries participated on the eighth day of the programme. 11 beneficiaries were trained for making detergent soap and 6 beneficiaries were trained for lab-scale biodiesel production. On day 78 soaps were made, and 1L biodiesel was produced. The soaps were subjected to curing

for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



### 01.06.2022

17 beneficiaries participated on the ninth day of the programme. 11 beneficiaries were trained for making detergent soap and 6 beneficiaries were trained for lab-scale biodiesel production. On day 36 soaps were made, and 1L biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



### 02.06.2022

18 beneficiaries participated on the eighth day of the programme. 13 beneficiaries were trained for making detergent soap and 5 beneficiaries were trained for lab-scale biodiesel production.

On day 36 soaps were made, and 1 L biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



***At the end of the 10 days training programme the following were the outcomes***

- 1) 22 beneficiaries of Eachampoondi were trained. A dedicated team for soap making and biodiesel production were identified, to be involved in the large-scale production of detergent soaps and biodiesel which is expected to be implemented in August 2022.
- 2) Safety training was also given to the beneficiaries.
- 3) The impact of the chemicals handled during soap and biodiesel production were also explained.
- 4) The importance of diverting Waste Cooking Oil for Soap and Biodiesel production from both environmental and health perspectives were detailed to the beneficiaries.
- 5) The by-products and waste generated during biodiesel production and how they need to be managed were also explained to the beneficiaries.
- 6) The beneficiaries were also briefed about how they need to involve themselves in marketing the products made. They were allowed to share their opinion to promote the marketing of the products.
- 7) A total of 475 soaps were made. Of which 400 were identified suitable for sales.

- 8) A total of 9L biodiesel was produced. Preliminary tests to evaluate the raw oil's suitability for biodiesel production and product quality were also taught to the beneficiaries.

On an average more than 85% attendance was witnessed on all days of the training. The training was successfully completed for the first batch of 22 beneficiaries on 2<sup>nd</sup> June 2022. Of the total beneficiaries, 17 are women. The second batch of beneficiaries were announced and 22 beneficiaries were willing to participate in the second phase of the Training which is scheduled from 13.06.2022 to 28.06.2022.



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Cuddalore District, Tamil Nadu**

**Supported by  
Department of Science and Technology – New Delhi  
10 days Training Programme Series 2 - Report**

**Village: Eachampoondi**

**Duration: 13.06.2022 to 28.06.2022**

22 beneficiaries were identified for the ten days of the training programme. The training spanned from 13<sup>th</sup> June 2022 to 28<sup>th</sup> June 2022. Lab-scale biodiesel production and Detergent soap making were the interventions for which the beneficiaries were trained. The training materials were provided. Waste Cooking oil was used as raw material for both products. The training was given by Mr A Santhosh, the Project coordinator and Mr S Sanjay Kumar, Project Assistant of the STI Hub established at Cuddalore.



**13.06.2022**

13 beneficiaries participated on the first day of the programme. 03 beneficiaries were trained for lab-scale biodiesel production and the remaining 10 beneficiaries were trained for making detergent soap. On one day 900 mL biodiesel and 06 soaps were produced. The soaps were subjected to curing for 15 days period. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The participants were provided with safety coats, gloves, masks and identity badges. An attendance roll was prepared, and an announcement was made that attendance was compulsory on all days of training.



**15.06.2022**

16 beneficiaries participated on the second day of the programme. 10 beneficiaries were continued to be trained in detergent soap making and the remaining 06 beneficiaries were trained for lab-scale biodiesel production. On day36 soaps were made, and 900mL biodiesel was produced. The significance of Transesterification of raw oil, separation of product and by-product and washing of biodiesel were explained. The soaps were subjected to curing for 15 days period.



**16.06.2022**

19 beneficiaries participated on the third day of the programme. 14 beneficiaries were trained for making detergent soap and 05 beneficiaries were trained for lab-scale biodiesel production. On day 71 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**17.06.2022**

20 beneficiaries participated on the third day of the programme. 14 beneficiaries were trained for making detergent soap and 06 beneficiaries were trained for lab-scale biodiesel production. On day 71 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**20.06.2022**

18 beneficiaries participated on the third day of the programme. 13 beneficiaries were trained for making detergent soap and 05 beneficiaries were trained for lab-scale biodiesel production. On day 52 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**21.06.2022**

20 beneficiaries participated on the third day of the programme. 14 beneficiaries were trained for making detergent soap and 06 beneficiaries were trained for lab-scale biodiesel production. On day 36 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.





**22.06.2022**

18 beneficiaries participated on the third day of the programme. 12 beneficiaries were trained for making detergent soap and 06 beneficiaries were trained for lab-scale biodiesel production. On day 48 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**23.06.2022**

19 beneficiaries participated on the third day of the programme. 13 beneficiaries were trained for making detergent soap and 06 beneficiaries were trained for lab-scale biodiesel production. On day 36 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**24.06.2022**

18 beneficiaries participated on the third day of the programme. 12 beneficiaries were trained for making detergent soap and 6 beneficiaries were trained for lab-scale biodiesel production. On day 36 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**28.06.2022**

21 beneficiaries participated on the third day of the programme. 15 beneficiaries were trained for making detergent soap and 06 beneficiaries were trained for lab-scale biodiesel production. On day 36 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



***At the end of the 10 days training programme the following were the outcomes***

- 1) 22 beneficiaries of Eachampoondi were trained. A dedicated team for soap making and biodiesel production were identified, to be involved in the large-scale production of detergent soaps and biodiesel which is expected to be implemented in August 2022.
- 2) Safety training was also given to the beneficiaries.
- 3) The impact of the chemicals handled during soap and biodiesel production were also explained.
- 4) The importance of diverting Waste Cooking Oil for Soap and Biodiesel production from both environmental and health perspectives were detailed to the beneficiaries.
- 5) The by-products and waste generated during biodiesel production and how they need to be managed were also explained to the beneficiaries.
- 6) The beneficiaries were also briefed about how they need to involve themselves in marketing the products made. They were allowed to share their opinion to promote the marketing of the products.
- 7) A total of 428 soaps were made. Of which 380 soaps were identified suitable for sales.
- 8) A total of 9L biodiesel was produced. Preliminary tests to evaluate the raw oil's suitability for biodiesel production and product quality were also taught to the beneficiaries.

On an average more than 85% attendance was witnessed on all days of the training. The training was successfully completed for the second batch of 22 beneficiaries on 28<sup>th</sup> June 2022. Of the total beneficiaries, 20 are women. The third batch of beneficiaries were announced and 18 beneficiaries were willing to participate in the third phase of the Training which is scheduled from 15.07.2022 to 28.07.2022.



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**Supported by  
Department of Science and Technology – New Delhi  
10 days Training Programme Series 3 - Report**

**Village: Eachampoondi**

**Duration: 15.07.2022 to 28.07.2022**

18 beneficiaries were identified for the ten days of the training programme. The training spanned from 15<sup>th</sup> July 2022 to 28<sup>th</sup> July 2022. Lab-scale biodiesel production and Detergent soap making were the interventions for which the beneficiaries were trained. The training materials were provided. Waste Cooking oil was used as raw material for both products. The training was given by Mr A Santhosh, the Project Coordinator and Mr S Sanjay Kumar, the Project Assistant, Mr M Mazhalaiselvan, the project assistant of the STI Hub established at Cuddalore.



**15.07.2022**

15 beneficiaries participated on the first day of the programme. 05 beneficiaries were trained for lab-scale biodiesel production and the remaining 10 beneficiaries were trained for making detergent soap. On one day 900 mL biodiesel and 36 soaps were produced. The soaps were subjected to curing for 15 days period. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The participants were provided with safety coats, gloves, masks and identity badges. An attendance roll was prepared, and an announcement was made that attendance was compulsory on all days of training.



**18.07.2022**

18 beneficiaries participated on the second day of the programme. 13 beneficiaries were continued to be trained in detergent soap making and the remaining 05 beneficiaries were trained for lab-scale biodiesel production. On day 53 soaps were made, and 900mL biodiesel was produced. The significance of Transesterification of raw oil, separation of product and by-product and washing of biodiesel were explained. The soaps were subjected to curing for 15 days period.



**19.07.2022**

17 beneficiaries participated on the third day of the programme. 12 beneficiaries were trained for making detergent soap and 05 beneficiaries were trained for lab-scale biodiesel production. On day 53 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**20.07.2022**

17 beneficiaries participated on the third day of the programme. 12 beneficiaries were trained for making detergent soap and 05 beneficiaries were trained for lab-scale biodiesel production. On day 71 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**21.07.2022**

17 beneficiaries participated on the third day of the programme. 13 beneficiaries were trained for making detergent soap and 04 beneficiaries were trained for lab-scale biodiesel production. On day 33 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**22.07.2022**

17 beneficiaries participated on the third day of the programme. 13 beneficiaries were trained for making detergent soap and 05 beneficiaries were trained for lab-scale biodiesel production. On day 36 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.





### 25.06.2022

16 beneficiaries participated on the third day of the programme. 11 beneficiaries were trained for making detergent soap and 05 beneficiaries were trained for lab-scale biodiesel production. On day 37 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



### 26.07.2022

18 beneficiaries participated on the third day of the programme. 13 beneficiaries were trained for making detergent soap and 05 beneficiaries were trained for lab-scale biodiesel production. On day 36 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



### **27.07.2022**

17 beneficiaries participated on the third day of the programme. 13 beneficiaries were trained for making detergent soap and 04 beneficiaries were trained for lab-scale biodiesel production. On day 36 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



### **28.07.2022**

18 beneficiaries participated on the third day of the programme. 13 beneficiaries were trained for making detergent soap and 05 beneficiaries were trained for lab-scale biodiesel production. On day 36 soaps were made, and 900mL biodiesel was produced. The soaps were subjected to curing for 15 days period. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



***At the end of the 10 days training programme the following were the outcomes***

- 1) 18 beneficiaries of Eachampoondi were trained. A dedicated team for soap making and biodiesel production were identified, to be involved in the large-scale production of detergent soaps and biodiesel which is expected to be implemented in August 2022.
- 2) Safety training was also given to the beneficiaries.
- 3) The impact of the chemicals handled during soap and biodiesel production were also explained.
- 4) The importance of diverting Waste Cooking Oil for Soap and Biodiesel production from both environmental and health perspectives were detailed to the beneficiaries.
- 5) The by-products and waste generated during biodiesel production and how they need to be managed were also explained to the beneficiaries.
- 6) The beneficiaries were also briefed about how they need to involve themselves in marketing the products made. They were allowed to share their opinion to promote the marketing of the products.
- 7) A total of 393 soaps were made. Of which 380 soaps were identified suitable for sales.
- 8) A total of 9L biodiesel was produced. Preliminary tests to evaluate the raw oil's suitability for biodiesel production and product quality were also taught to the beneficiaries.

On an average more than 85% attendance was witnessed on all days of the training. The training was successfully completed for the second batch of 18 beneficiaries on 28<sup>th</sup> June 2022.

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Cuddalore District, Tamil Nadu**

**Supported by  
Department of Science and Technology – New Delhi  
10 days Training Programme Series 4 - Report**

**Village: Eachampoondi**

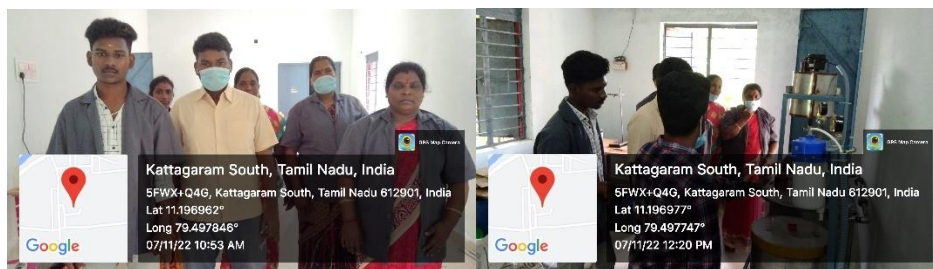
**Duration: 07.11.2022 to 23.11.2022**

Already we successfully complete the training for the last three batches. Now we have started the next batch of working from trained beneficiaries for Nov-Dec 2022. Six well-trained beneficiaries were identified from the completed past three batches for the next batch working. In this period, they were produced 2 liters of biodiesel per day by lab scale production. The training materials were provided. Waste Cooking oil was used as raw material for both products. The training was given by Mr A. Santhosh, the Project Coordinator and Mr S. Sanjay Kumar, Mr M. Mazhalaiselvan, the Project Assistants of the STI Hub established at Cuddalore. The ten days training programme (Series 4) began on 07<sup>th</sup> Nov 2022 in Eachampoondi village.

## **07.11.2022**

06 beneficiaries were trained for lab-scale and Pilot plant biodiesel production. On this day, 06 beneficiaries were made and 13 L biodiesel was produced by using 20 L capacity of Pilot plant. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The participants were provided with safety coats, gloves, masks and identity badges. An attendance roll was prepared, and an announcement was made that attendance was compulsory on all days of training.





## 08.11.2022

06 beneficiaries were trained for lab-scale and Pilot plant biodiesel production. On this day, 06 beneficiaries were made and 10 L biodiesel was produced by using 20 L capacity of Pilot plant. The significance of Transesterification of raw oil, separation of product and by-product and washing of biodiesel were explained. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



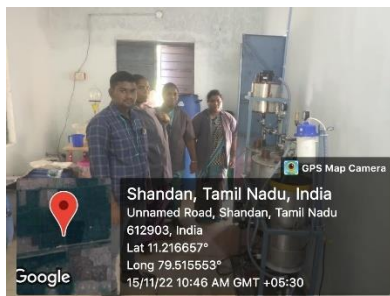
## 09.11.2022

06 beneficiaries were trained for lab-scale and Pilot plant biodiesel production. On this day, 06 beneficiaries were made and 10 L biodiesel was produced by using Pilot plant. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



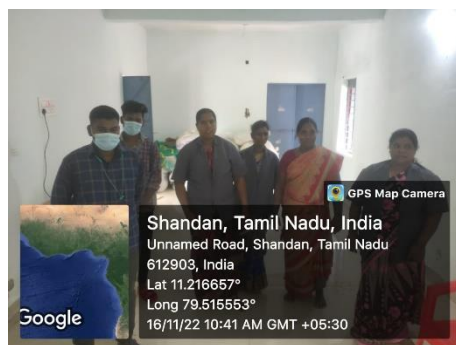
### **15.11.2022**

06 beneficiaries were trained for lab-scale biodiesel production. On this day, 06 beneficiaries were made and 1.9 L biodiesel was produced. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



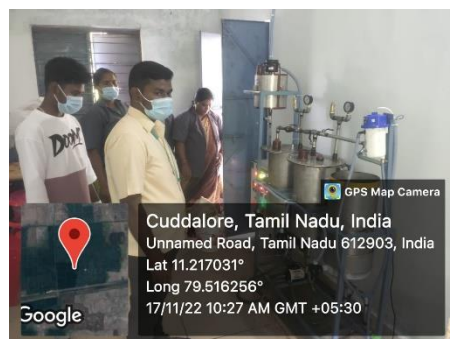
### **16.11.2022**

06 beneficiaries were trained for lab-scale and pilot plant biodiesel production. On this day, 06 beneficiaries were made and 10 L biodiesel was produced by using 20 L capacity of Pilot plant. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



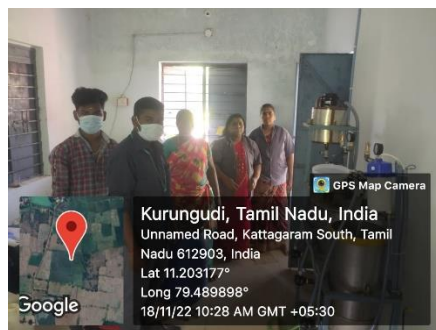
### **17.11.2022**

06 beneficiaries were trained for lab-scale and Pilot plant biodiesel production. On this day, 06 beneficiaries were made and 1.9 L biodiesel was produced by using 20 L capacity of Pilot plant. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



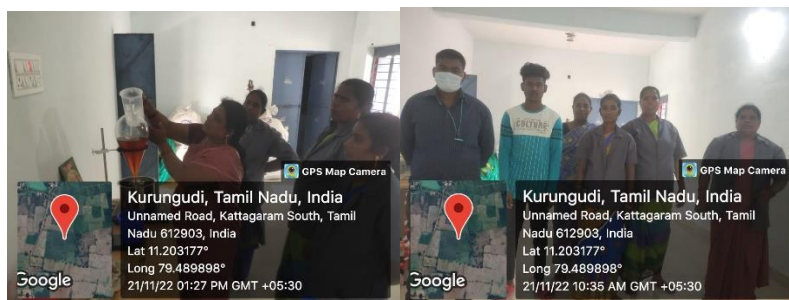
### **18.11.2022**

06 beneficiaries were trained for lab-scale and Pilot plant biodiesel production. On this day, 06 beneficiaries were made and 10 L biodiesel was produced by using 20 L capacity of Pilot plant. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



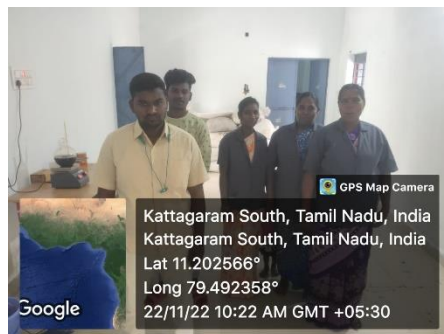
## 21.11.2022

06 beneficiaries were trained for lab-scale and Pilot plant biodiesel production. On this day, 06 beneficiaries were made and 8 L biodiesel was produced by using 20 L capacity of Pilot plant. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



## 22.11.2022

06 beneficiaries were trained for lab-scale biodiesel production. On this day, 06 beneficiaries were made and 1.9 L biodiesel was produced. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**23.11.2022**

06 beneficiaries were trained for lab-scale biodiesel production. On this day, 06 beneficiaries were made and 1.9 L biodiesel was produced. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



*At the end of the 10 days training programme, the following were the outcomes*

- 1) 06 beneficiaries of Eachampoondi were trained. A dedicated team for biodiesel production were identified, to be involved in the large-scale production of biodiesel which is expected to be implemented in August 2023.
- 2) Safety training was also given to the beneficiaries.
- 3) The impact of the chemicals handled during soap and biodiesel production were also explained.
- 4) The importance of diverting Waste Cooking Oil for Biodiesel production from both environmental and health perspectives were detailed to the beneficiaries.



- 5) The by-products and waste generated during biodiesel production and how they need to be managed were also explained to the beneficiaries.
- 6) The beneficiaries were also briefed about how they need to involve themselves in marketing the products made. They were allowed to share their opinion to promote the marketing of the products.
- 7) A total of 40L biodiesel was produced. Preliminary tests to evaluate the raw oil's suitability for biodiesel production and product quality were also taught to the beneficiaries.

On an average more than 99% attendance was witnessed on all days of the training. The training was successfully completed for the fourth batch of 06 beneficiaries on 23<sup>rd</sup> Nov 2022.

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**Science Technology and Innovation Hub in Kattumannar Koil, C D Block,  
Cuddalore District, Tamil Nadu**

Supported by  
Department of Science and Technology – New Delhi  
**10 days Training Programme Series 1 - Report**

**Village: Aadhanur**

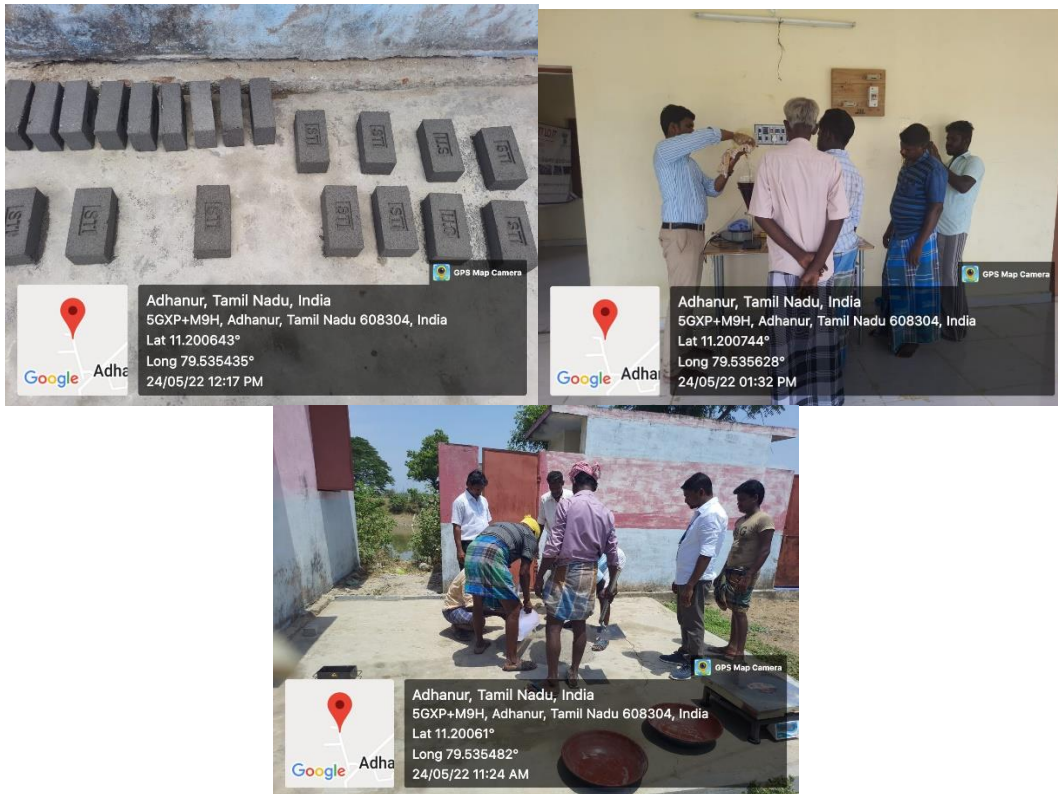
**Duration: 24/05/2022 to 06/06/2022**

The ten days training programme (Series 1) began on 24<sup>th</sup> May 2022 in Aadhanur village. Seventeen beneficiaries were identified to be trained during the sessions. The beneficiaries were trained for fly ash brick making and lab-scale biodiesel production. The training materials were provided. Waste Cooking oil was used as raw material for both products. The training was given by Dr.D. Ramachandran, one of the Project Investigators of STI-HUB, Mr.A.Santhosh, the Project coordinator and Mr.S.Sanjay Kumar, the Project Assistant of the STI Hub established at Cuddalore.



**24.05.2022**

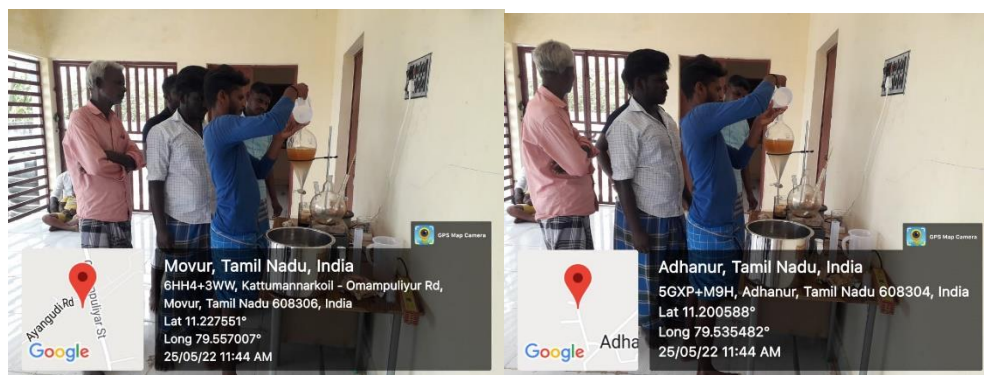
16 beneficiaries participated on the first day of the programme. 08 beneficiaries were trained for making fly ash bricks and the remaining 08 beneficiaries were trained for lab-scale biodiesel production. On this day, 31 fly ash bricks were made and 1L biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The participants were provided with safety coats, gloves, masks and identity badges. An attendance roll was prepared, and an announcement was made that attendance was compulsory on all days of training.



**25.05.2022**

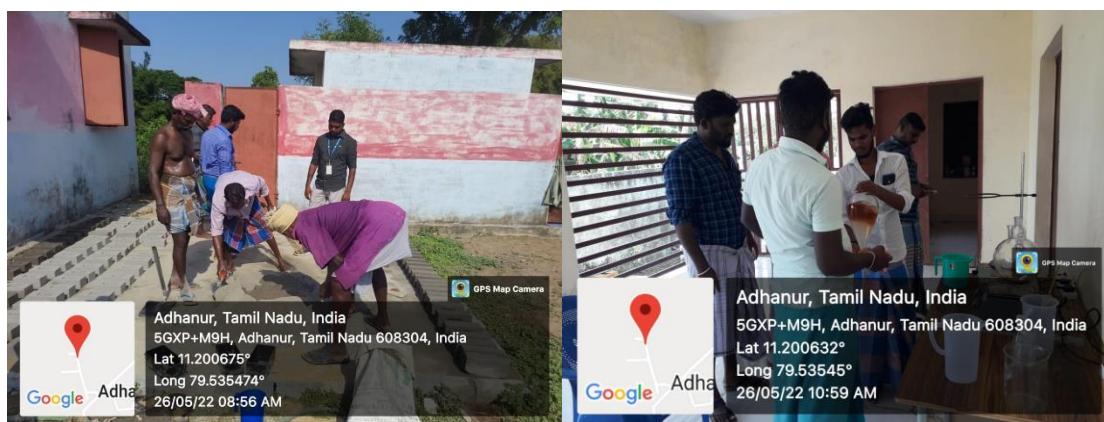
16 beneficiaries participated on the first day of the programme. 07 beneficiaries were trained for making fly ash bricks and the remaining 09 beneficiaries were trained for lab-scale biodiesel production. On this day, 95 fly ash bricks were made and 1L biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix.

The significance of Transesterification of raw oil, separation of product and by-product and washing of biodiesel were explained.



## 26.05.2022

14 beneficiaries participated on the first day of the programme. 07 beneficiaries were trained for making fly ash bricks and the remaining 07 beneficiaries were trained for lab-scale biodiesel production. On day 30 fly ash bricks were made and 1 L biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.

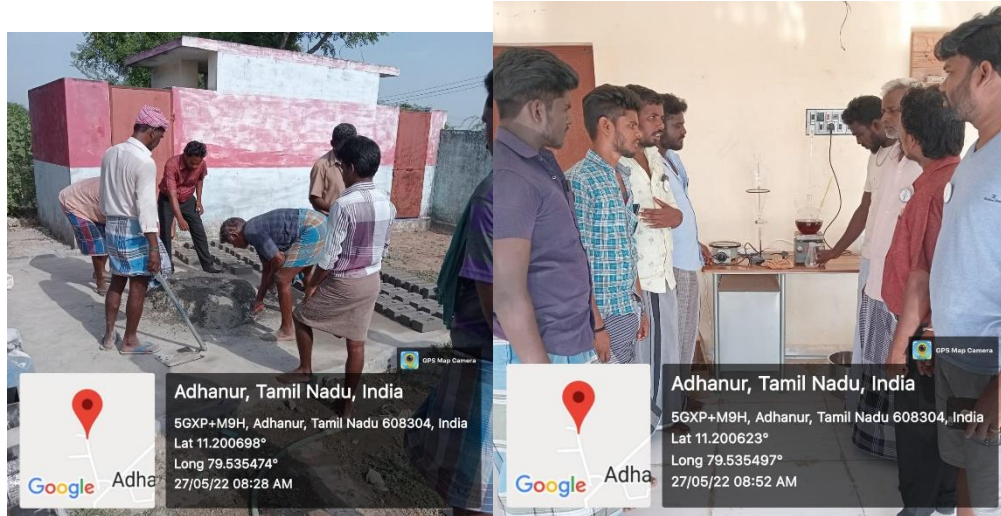


## 27.05.2022

14 beneficiaries participated on the first day of the programme. 06 beneficiaries were trained for making fly ash bricks and the remaining 08 beneficiaries were trained for lab-scale biodiesel production. On day 95 fly ash bricks were made and 1 L biodiesel was produced. The curing



period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



### **30.05.2022**

08 beneficiaries participated on the first day of the programme. 02 beneficiaries were trained for making fly ash bricks and the remaining 06 beneficiaries were trained for lab-scale biodiesel production. On day 37 fly ash bricks were made and 1 L biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.





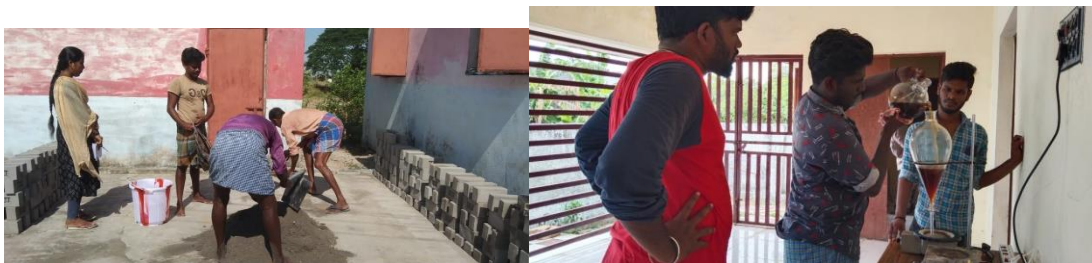
**31.05.2022**

09 beneficiaries participated on the first day of the programme. 03 beneficiaries were trained for making fly ash bricks and the remaining 06 beneficiaries were trained for lab-scale biodiesel production. On day 34 fly ash bricks were made and 1 L biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**01.06.2022**

07 beneficiaries participated on the first day of the programme. 02 beneficiaries were trained for making fly ash bricks and the remaining 05 beneficiaries were trained for lab-scale biodiesel production. On day 38 fly ash bricks were made and 1 L biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**02.06.2022**

09 beneficiaries participated on the first day of the programme. 03 beneficiaries were trained for making fly ash bricks and the remaining 06 beneficiaries were trained for lab-scale biodiesel production. On day 73 fly ash bricks were made and 1 L biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**03.06.2022**

10 beneficiaries participated on the first day of the programme. 05 beneficiaries were trained for making fly ash bricks and the remaining 05 beneficiaries were trained for lab-scale biodiesel production. On day 73 fly ash bricks were made and 1 L biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**06.06.2022**

08 beneficiaries participated on the first day of the programme. 04 beneficiaries were trained for making fly ash bricks and the remaining 04 beneficiaries were trained for lab-scale biodiesel production. On day 67 fly ash bricks were made and 1 L biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



*At the end of the 10 days training programme the following were the outcomes*

- 1) 22 beneficiaries of Aadhanur were trained. A dedicated team for fly ash brick making and biodiesel production were identified, to be involved in the large-scale production of biodiesel and fly ash brick which is expected to be implemented in August 2022.
- 2) Safety training was also given to the beneficiaries.
- 3) The impact of the chemicals handled during fly ash bricks and biodiesel productions were also explained.
- 4) The importance of diverting Waste Cooking Oil for Soap and Biodiesel production from both environmental and health perspectives were detailed to the beneficiaries.
- 5) The by-products and waste generated during biodiesel production and how they need to be managed were also explained to the beneficiaries.
- 6) The beneficiaries were also briefed about how they need to involve themselves in marketing the products made. They were allowed to share their opinion to promote the marketing of the products.
- 7) A total of 500 fly ash bricks were made. Of which 450 were identified suitable for sales.

8) A total of 9L biodiesel was produced. Preliminary tests to evaluate the raw oil's suitability for biodiesel production and product quality were also taught to the beneficiaries.

On an average more than 85% attendance was witnessed on all days of the training. The training was successfully completed for the first batch of 22 beneficiaries on 6<sup>th</sup> June 2022. The second batch of beneficiaries were announced and 22 beneficiaries were willing to participate in the second phase of the Training which is scheduled from 21.06.2022 to 02.07.2022.



# **SATHYABAMA**

Institute of Science and Technology

**Centre for Waste Management  
Centre of Excellence for Energy Research  
Centre for Nanoscience and Nanotechnology  
Department of Electronics and Communication Engineering**

**Science Technology and Innovation Hub in Kattumannar Koil, C D Block,  
Cuddalore District, Tamil Nadu**

**Supported by  
Department of Science and Technology – New Delhi  
10 days Training Programme Series 2 - Report**

**Village: Aadhanur**

**Duration: 21/06/2022 to 04/07/2022**

The ten days training programme (Series 2) began on 21<sup>st</sup> June 2022 in Aadhanur village. Nineteen beneficiaries were identified to be trained during the sessions. The beneficiaries were trained for Soap making, fly ash brick making and lab-scale biodiesel production. The training materials were provided. Waste Cooking oil was used as raw material for both products. The training was given by Dr.D. Ramachandran, one of the Project Investigators of STI-HUB, Mr.A.Santhosh, the Project coordinator and Mr.S.Sanjay Kumar, the Project Assistant of the STI Hub established at Cuddalore.

## **21.06.2022**

16 beneficiaries participated on the first day of the programme. 09 Beneficiaries were trained for soap making, 02 beneficiaries were trained for making fly ash bricks and the remaining 05 beneficiaries were trained for lab-scale biodiesel production. On this day, 31 fly ash bricks were made, 23 soaps were made and 900 mL biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The participants were provided with safety coats, gloves, masks and identity badges. An attendance roll was prepared, and an announcement was made that attendance was compulsory on all days of training.



**22.06.2022**

13 beneficiaries participated on this day of the programme. 07 beneficiaries were trained for soap making, 02 beneficiaries were trained for making fly ash bricks and the remaining 04 beneficiaries were trained for lab-scale biodiesel production. On this day, 31 fly ash bricks were made, 24 soaps were made and 900 mL biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The significance of Transesterification of raw oil, separation of product and by-product and washing of biodiesel were explained.



**23.06.2022**

12 beneficiaries participated on this day of the programme. 09 beneficiaries were trained for soap making, and the remaining 03 beneficiaries were trained for lab-scale biodiesel production. On this day, 24 soaps were made and 900mL biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**24.06.2022**

09 beneficiaries participated on this day of the programme. 07 beneficiaries were trained for soap making and the remaining 02 beneficiaries were trained for lab-scale biodiesel production. On this day, 24 soaps were made and 900 mL biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**27.06.2022**

12 beneficiaries participated on this day of the programme. 09 beneficiaries were trained for soap making and the remaining 03 beneficiaries were trained for lab-scale biodiesel production. On this day, 36 soaps were made and 900 mL biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**28.06.2022**

13 beneficiaries participated on this day of the programme. 09 beneficiaries were trained for soap making and the remaining 04 beneficiaries were trained for lab-scale biodiesel production. On this day, 24 soaps were made and 900 mL biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel



process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**29.06.2022**

07 beneficiaries participated on this day of the programme. 06 beneficiaries soap making and the remaining 01 beneficiaries were trained for lab-scale biodiesel production. On this day, 24 and 900mL biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. And also, the curing period of soaps is 15 days. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.





**30.06.2022**

15 beneficiaries participated on this day of the programme. 11 beneficiaries were trained for soap making and the remaining 04 beneficiaries were trained for lab-scale biodiesel production. On this day, 36 soaps were made and 900 mL biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**01.07.2022**

10 beneficiaries participated on this day of the programme. 08 beneficiaries were trained for soap making and the remaining 02 beneficiaries were trained for lab-scale biodiesel production. On this day, 24 soaps were made and 900 mL biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**04.07.2022**

12 beneficiaries participated on this day of the programme. 09 beneficiaries were trained for soap making and the remaining 03 beneficiaries were trained for lab-scale biodiesel production. On this day, 36 soaps were made and 900 mL biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



*At the end of the 10 days training programme the following were the outcomes*

- 1) 19 beneficiaries of Eachampoondi were trained. A dedicated team for soap making and biodiesel production were identified, to be involved in the large-scale production of detergent soaps and biodiesel which is expected to be implemented in August 2022.
- 2) Safety training was also given to the beneficiaries.
- 3) The impact of the chemicals handled during soap and biodiesel production were also explained.
- 4) The importance of diverting Waste Cooking Oil for Soap and Biodiesel production from both environmental and health perspectives were detailed to the beneficiaries.
- 5) The by-products and waste generated during biodiesel production and how they need to be managed were also explained to the beneficiaries.
- 6) The beneficiaries were also briefed about how they need to involve themselves in marketing the products made. They were allowed to share their opinion to promote the marketing of the products.
- 7) A total of 275 soaps were made. Of which 200 were identified suitable for sales.
- 8) A total of 9L biodiesel was produced. Preliminary tests to evaluate the raw oil's suitability for biodiesel production and product quality were also taught to the beneficiaries.

On an average more than 85% attendance was witnessed on all days of the training. The training was successfully completed for the second batch of 19 beneficiaries on 21<sup>st</sup> July 2022. 19 Of the total beneficiaries, 16 are women. The third batch of beneficiaries were announced and 30 beneficiaries were willing to participate in the third phase of the Training which is scheduled from 18.07.2022 to 29.07.2022.



# **SATHYABAMA**

Institute of Science and Technology

**Centre for Waste Management  
Centre of Excellence for Energy Research  
Centre for Nanoscience and Nanotechnology  
Department of Electronics and Communication Engineering**

**Science Technology and Innovation Hub in Kattumannar Koil, C D Block,  
Cuddalore District, Tamil Nadu**

**Supported by  
Department of Science and Technology – New Delhi  
10 days Training Programme Series 3 - Report**

**Village: Aadhanur**

**Duration: 18.07.2022 to 29.07.2022**

The ten days training programme (Series 3) began on 18<sup>th</sup> July 2022 in Aadhanur village. Thirty beneficiaries were identified to be trained during the sessions. The beneficiaries were trained in Soap making, fly ash brick making and lab-scale biodiesel production. The training materials were provided. Waste Cooking oil was used as raw material for both products. The training was given by Dr.D. Ramachandran, one of the Project Investigators of STI-HUB, Mr.A.Santhosh, the Project Coordinator and Mr S.Sanjay Kumar, Mr M. Mazhalaiselvan, the Project Assistant of the STI Hub established at Cuddalore.

## **18.07.2022**

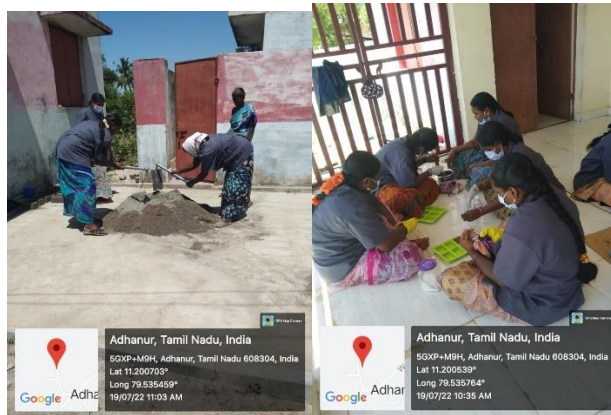
25 beneficiaries participated on the first day of the programme. 13 Beneficiaries were trained for soap making, 8 were trained for making fly ash bricks and the remaining 04 were trained for lab-scale biodiesel production. On this day, 16 beneficiaries were trained for fly ash brick, 20 soaps were made and 900 mL biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The participants were provided with safety coats, gloves, masks and identity badges. An attendance roll was prepared, and an announcement was made that attendance was compulsory on all days of training.





## 19.07.2022

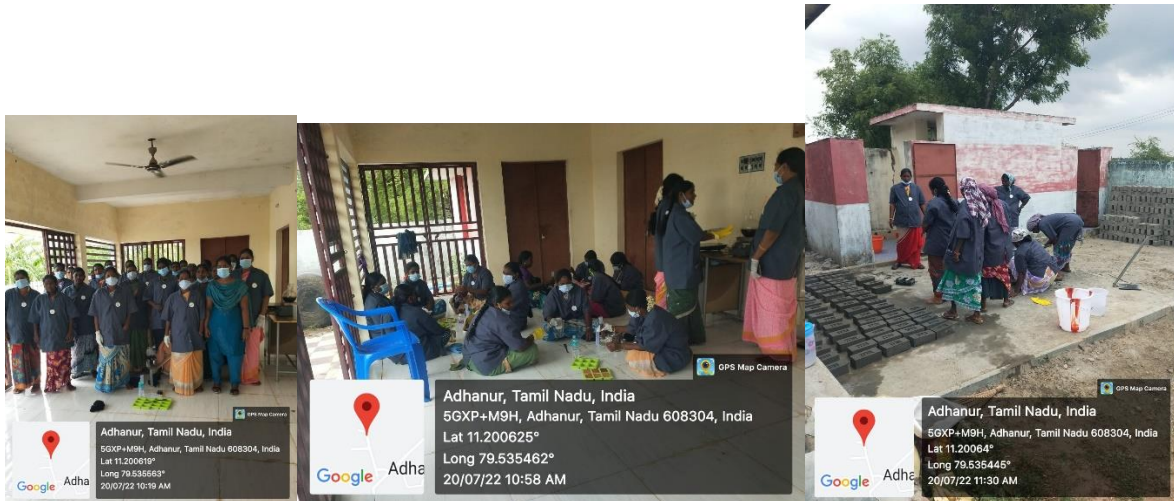
28 beneficiaries participated on this day of the programme. 15 beneficiaries were trained for soap making, 08 were trained for making fly ash bricks, and the remaining 05 were trained for lab-scale biodiesel production. On this day, 62 beneficiaries were trained for fly ash brick, 54 soaps were made and 900 mL biodiesel was produced. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The significance of Transesterification of raw oil, separation of product and by-product and washing of biodiesel were explained.



## 20.07.2022

26 beneficiaries participated on this day of the programme. 15 beneficiaries were trained for soap making, 03 were trained for lab-scale biodiesel production, and 08 were trained for fly ash bricks. On this day, 54 soaps were made, 900mL biodiesel was produced, and 54 beneficiaries were trained for fly ash brick. The curing period for fly ash bricks is 15 days as per standards, as no

cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



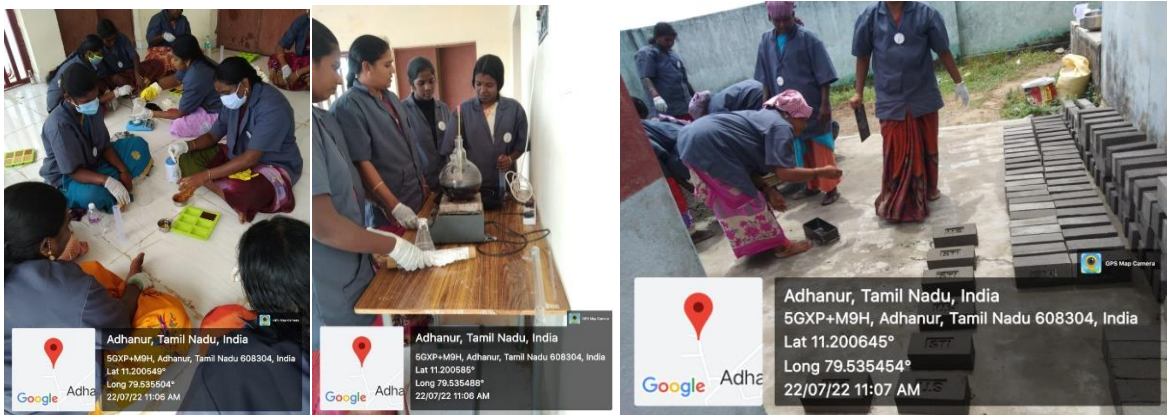
**21.07.2022**

28 beneficiaries participated on this day of the programme. 14 beneficiaries were trained for soap making, 05 were trained for lab-scale biodiesel production, and 09 were trained for fly ash bricks. On this day, 46 soaps were made, 900 mL biodiesel was produced, and 26 fly ash bricks were made. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**22.07.2022**

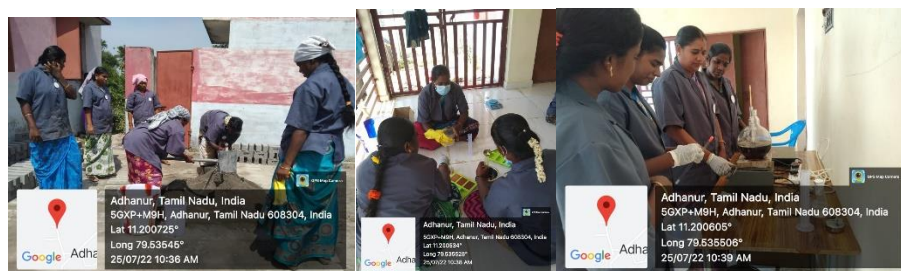
27 beneficiaries participated on this day of the programme. 14 beneficiaries were trained for soap making and the remaining 05 beneficiaries were trained for lab-scale biodiesel production, and 08 beneficiaries were trained for fly ash bricks. On this day, 34 soaps were made, 900 mL biodiesel was produced, and 46 fly ash bricks were made. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**25.07.2022**

26 beneficiaries participated on this day of the programme. 12 beneficiaries were trained for soap making and the remaining 05 beneficiaries were trained for lab-scale biodiesel production, and 09 beneficiaries were trained for fly ash bricks. On this day, 34 soaps were made and 900 mL biodiesel was produced, and 44 fly ash bricks were made. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.





## 26.07.2022

26 beneficiaries participated on this day of the programme. 13 beneficiaries were soap making and the remaining 04 beneficiaries were trained for lab-scale biodiesel production, and 09 beneficiaries were trained for fly ash bricks. On this day, 34 soaps were made, 900mL biodiesel was produced, and 41 fly ash bricks were made. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. And also, the curing period of soaps is 15 days. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



## 27.07.2022

27 beneficiaries participated on this day of the programme. 15 beneficiaries were trained for soap making and the remaining 04 beneficiaries were trained for lab-scale biodiesel production, 05 beneficiaries were trained for fly ash bricks. On this day, 39 soaps were made, 900mL biodiesel was produced, and 53 fly ash bricks were made. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps

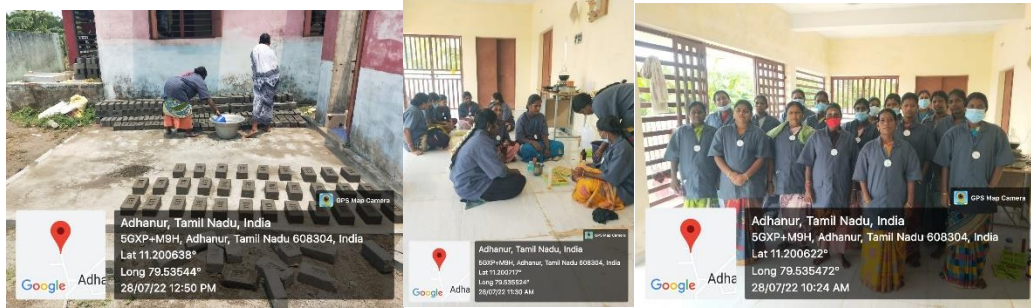
is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



## 28.07.2022

17 beneficiaries participated on this day of the programme. 09 beneficiaries were trained for soap making and the remaining 03 beneficiaries were trained for lab-scale biodiesel production, 05 beneficiaries were trained for fly ash bricks. On this day, 34 soaps were made, 900 mL biodiesel was produced, and 32 fly ash bricks were made. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.





**29.07.2022**

24 beneficiaries participated on this day of the programme. 14 beneficiaries were trained for soap making and the remaining 03 beneficiaries were trained for lab-scale biodiesel production, 07 beneficiaries were trained for fly ash bricks. On this day, 34 soaps were made, 900 mL of biodiesel was produced, and 48 fly ash bricks were made. The curing period for fly ash bricks is 15 days as per standards, as no cores aggregates are used in the mix. And also, the curing period of soaps is 15 days. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



***At the end of the 10 days training programme, the following were the outcomes***

- 1) 30 beneficiaries of Aadhanur were trained. A dedicated team for soap making and biodiesel production were identified, to be involved in the large-scale production

of detergent soaps and biodiesel and the making of fly ash brick which is expected to be implemented in August 2022.

- 2) Safety training was also given to the beneficiaries.
- 3) The impact of the chemicals handled during soap and biodiesel production were also explained.
- 4) The importance of diverting Waste Cooking Oil for Soap and Biodiesel production from both environmental and health perspectives were detailed to the beneficiaries.
- 5) The by-products and waste generated during biodiesel production and how they need to be managed were also explained to the beneficiaries.
- 6) The beneficiaries were also briefed about how they need to involve themselves in marketing the products made. They were allowed to share their opinion to promote the marketing of the products.
- 7) A total of 358 soaps were made. Of which 320 were identified suitable for sales.
- 8) A total of 9L biodiesel was produced. Preliminary tests to evaluate the raw oil's suitability for biodiesel production and product quality were also taught to the beneficiaries.

On an average more than 85% attendance was witnessed on all days of the training. The training was successfully completed for the third batch of 30 beneficiaries on 29<sup>th</sup> July 2022.



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**Science Technology and Innovation Hub in Kattumannar Koil, C D Block,  
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**Supported by  
Department of Science and Technology – New Delhi  
10 days Training Programme Series 4 - Report**

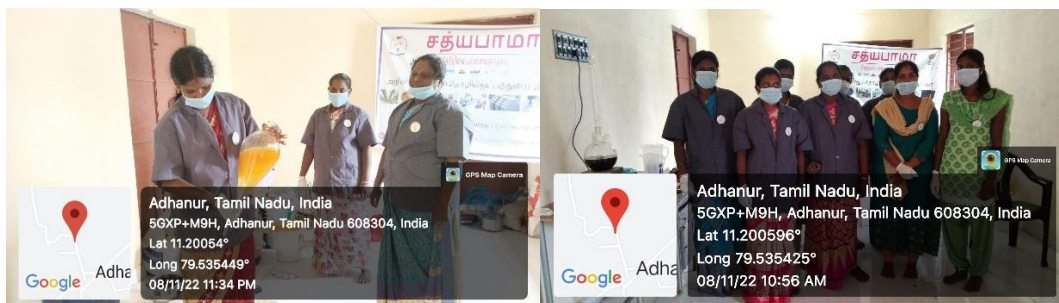
**Village: Aadhanur**

**Duration: 08.11.2022 to 22.11.2022**

Already we successfully complete the training for the last three batches. Now we have started the next batch of working from trained beneficiaries for Nov-Dec 2022. Six well-trained beneficiaries were identified from the completed past three batches for the next batch working. In this period, they were produced 2 liters of biodiesel per day by lab scale production. The training materials were provided. Waste Cooking oil was used as raw material for both products. The training was given by Mr A. Santhosh, the Project Coordinator and Mr S. Sanjay Kumar, Mr M. Mazhalaiselvan, the Project Assistants of the STI Hub established at Cuddalore. The ten days training programme (Series 4) began on 08<sup>th</sup> Nov 2022 in Aadhanur village.

## **08.11.2022**

06 beneficiaries were trained for lab-scale biodiesel production. On this day, 06 beneficiaries were made and 1.9 L biodiesel was produced. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The participants were provided with safety coats, gloves, masks and identity badges. An attendance roll was prepared, and an announcement was made that attendance was compulsory on all days of training.



### 09.11.2022

05 beneficiaries were trained for lab-scale biodiesel production. On this day, 06 beneficiaries were made and 1.9 L biodiesel was produced. The significance of Transesterification of raw oil, separation of product and by-product and washing of biodiesel were explained.



### 10.11.2022

06 beneficiaries were trained for lab-scale biodiesel production. On this day, 06 beneficiaries were made and 1.9 L biodiesel was produced. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.





**14.11.2022**

06 beneficiaries were trained for lab-scale biodiesel production. On this day, 06 beneficiaries were made and 1.9 L biodiesel was produced. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**15.11.2022**

06 beneficiaries were trained for lab-scale biodiesel production. On this day, 06 beneficiaries were made and 1.9 L biodiesel was produced. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**16.11.2022**

06 beneficiaries were trained for lab-scale biodiesel production. On this day, 06 beneficiaries were made and 1.9 L biodiesel was produced. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



### 17.11.2022

06 beneficiaries were trained for lab-scale biodiesel production. On this day, 06 beneficiaries were made and 1.9 L biodiesel was produced. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



### 18.11.2022

06 beneficiaries were trained for lab-scale biodiesel production. On this day, 06 beneficiaries were made and 1.9 L biodiesel was produced. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**21.11.2022**

06 beneficiaries were trained for lab-scale biodiesel production. On this day, 06 beneficiaries were made and 1.9 L biodiesel was produced. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



**22.11.2022**

06 beneficiaries were trained for lab-scale biodiesel production. On this day, 06 beneficiaries were made and 1.9 L biodiesel was produced. The beneficiaries were also trained on the precautionary safety measures to be adopted during the production. The by-product glycerine from the biodiesel process was recovered and stored. The wash water generated during the biodiesel refining process was also collected.



*At the end of the 10 days training programme, the following were the outcomes*

- 1) 06 beneficiaries of Aadhanur were trained. A dedicated team for biodiesel production were identified, to be involved in the large-scale production of biodiesel which is expected to be implemented in August 2023.
- 2) Safety training was also given to the beneficiaries.
- 3) The impact of the chemicals handled during soap and biodiesel production were also explained.
- 4) The importance of diverting Waste Cooking Oil for Biodiesel production from both environmental and health perspectives were detailed to the beneficiaries.
- 5) The by-products and waste generated during biodiesel production and how they need to be managed were also explained to the beneficiaries.
- 6) The beneficiaries were also briefed about how they need to involve themselves in marketing the products made. They were allowed to share their opinion to promote the marketing of the products.
- 7) A total of 19L biodiesel was produced. Preliminary tests to evaluate the raw oil's suitability for biodiesel production and product quality were also taught to the beneficiaries.

On an average more than 99% attendance was witnessed on all days of the training. The training was successfully completed for the fourth batch of 06 beneficiaries on 22<sup>nd</sup> Nov 2022.