



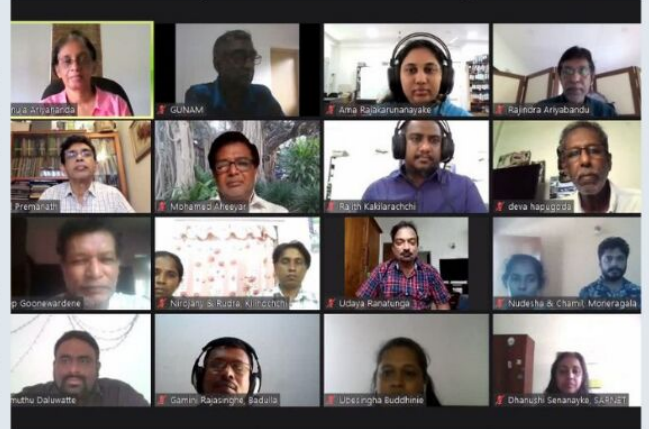
## 24th Annual General Meeting of Lanka Rain Water Harvesting Forum

The Lanka Rain Water Harvesting Forum (LRWHF) hosted its 24th Annual General Meeting on the 25th of September 2021. Notably, this was the first time the AGM was hosted on a virtual platform. Former board of directors, members, partners, and staff members of LRWHF participated virtually using the Zoom online meeting platform.

Dr. Tanuja Ariyananda the Chief Executive Officer of LRWHF along with Mr. Rajindra Ariyabandu the Chairperson of LRWHF welcomed the participant for the AGM. Field coordinators and officers of LRWHF sub-offices located in Monaragala, Kilinochchi, and Badulla reported the success of the past year's activities in relevant districts. Mrs. Ama Rajakarunanayake the deputy director and project coordinator highlighted the major success, promotion, research and development, network, and exchange of information on rainwater harvesting over the period. Despite constraint faced due to the prevailing covid pandemic situation, the forum was able to continue the projects and achieve goals for the year. Members appreciated the outstanding effort of the LRWHF team led by Dr. Tanuja Ariyananda. On behalf of the treasurer, Dr. C S Weeraratne, Mr. Rajith Kakillearachchi the finance manager presented the finance report for the year 2020 - 2021, Both annual and finance reports were endorsed by the members of the forum.

Office Bearers for the year 2021/22 was elected as Mr M.M.M Aheeyar as the Chairperson whilst Mr. Rajindra de Silva Ariyabandu elected the vice Chairperson, Eng Deva Hapugoda was elected Secretary, and Dr. C.S Weeraratna was elected the Treasurer.

Addressing the members of the forum, newly elected Chairperson, Mr. M M M Aheeyar stated "We need to work progressively to mobilize resources to Rain Water Forum. Building partnerships, networking with the public and private sector, NGOs, and donor organizations come up with new ideas and new strategies to go forward with rainwater harvesting, and continue the good work we did past 25 years"



### Board Of Directors 2021/2022

- Hony. Chairperson - Mr M.M.M Aheeyar
- Hony. Vice Chairperson - Mr Rajindra de Silva Ariyabandu
- Hony. Secretary - Eng Deva Hapugoda
- Hony. Assistant Secretary - Archt U.A.B Kaushalya
- Hony. Treasurer - Dr C.S Weeraratna
- Hony. Assistant Treasurer - Mr Emanuel Gunaratnam
- Hony. Non-Post Director - Eng N.U.K Ranathunga



### INSIDE THE ISSUE

- PAGE 01 24th Annual General Meeting of Lanka Rain Water Harvesting Forum
- PAGE 02 & 03 වැසිජලය රැස්කිරීමේ තාක්ෂණය රැගෙන ඇතිලිවුව සිට නේපාලයට
- PAGE 04 Designing of the Rain Water Harvesting Calculator
- PAGE 05 வீட்டுத்தோட்டப் போட்டி கிளிநொச்சி மற்றும் முல்லைத்தீவு மாவட்டங்கள்
- PAGE 06 & 07 Rainwater Harvesting for Industries
- PAGE 08 Children's Corner



# වැසිජලය රැස්කිරීමේ තාක්ෂණය රැගෙන

ජලය හිඟවීම හේතුවෙන් කාන්තාවන් බොහෝ දුෂ්කරතාවලට මුහුණදෙති . ජලය සොයා දුර ඇවිද යාමටත්, බරැති දිය පිරුණු භාජන ඔසවාගෙන වීමටත් ඔවුන්ට මහත් පරිශ්‍රමයක් දැරීමට සිදුවෙයි . වැසි ජලය රැස්කර පරිභෝජනය කිරීමට හුරුකිරීම තුලින් කාන්තාවන්ට මහත් අස්වැසිල්ලක් අත්කරදීමට ලංකා වැසිජලය රැස්කරන්නන්ගේ සංසදයට හැකිවිණි . එයින් නොනැවරී ආර්ථික සමාජයීය වශයෙන් කාන්තාව ඔසවා තැබීමට ගත් ප්‍රයත්නයේ ප්‍රතිපලයක් ලෙස අපගේ පුහුණු පෙදෙරේරුවරියන් ලොවට හඳුන්වාදෙන්නේ මහත් ආධිමිඵරයෙනි.



ආර් ඩී මල්කාන්ති ලංකා වැසිජලය රැස්කරන්නන්ගේ සංසදය විසින් පුහුණු කරන ලද ප්‍රථම කාන්තා පෙදෙරේරුවරියයි. සිය සැමියා හා දරුවන් තිදෙනා සමග ඇය මොණරාගල මහආරගම ග්‍රාමයේ ජීවත්වෙයි. මල්කාන්ති 2019 වර්ෂයේ සිට මොණරාගල දිස්ත්‍රික්කයේ ක්‍රියාත්මක වැසිජලය රැස්කිරීමේ පද්ධති ඉදිකිරීමේ කටයුත්තෙහි නිරත වී සිටී. ඇය 2021 දෙසැම්බර් නේපාලයේ පොකාරාහි වැසිජලය රැස්කිරීමේ පද්ධති ඉදිකිරීම පිළිබඳ පුහුණු වැඩසටහනකට පුහුණුකාරිනියක ලෙස සම්බන්ධවුවාය.

"2019 වර්ෂයේදී ලංකා වැසිජලය රැස්කරන්නන්ගේ සංසදය මගින් අපේ ගමෙන් වැසිජල රැස්කිරීමේ පද්ධති ඉදිකිරීමේ ව්‍යපෘතියක් ක්‍රියාත්මක කරා. මගේ නිවසෙන් වැසිජලය රැස්කිරීමේ පද්ධතියක් ඉදිකළා. ඉදිකිරීම් කටයුතු වලට සහයෝගය දෙද්දී මේ වගේ වැඩසටහනක් හදන්න මටත් පුළුවන් කියලා මම හිතුවා. ක්ෂේත්‍ර නිලධාරීන් හදුනා මහත්මයාණනි එක් වී පිළිබඳව කතා කලාම ඇය මට අවස්ථාවක් දුන්නා ඉදිකිරීම් කටයුතු වලට සම්බන්ධ වෙන්න. මාව පුහුණු කල ද්‍රෝණියා පෙදෙරේරු මහතා මට සම්පූර්ණයෙන්ම වැසිජලය රැස්කිරීමේ පද්ධතියක් ඉදිකරන ආකාරය කියලා දුන්නා."

"මම මුලින්ම සම්බන්ධ වුනේ පාසල් වැසිජල රැස්කිරීමේ පද්ධති ඉදිකිරීමේ කටයුතු වලට. බුන්තල බිඹලගම පාසලෙන්, සියඹලාණ්ඩුව, බෝවිටිය විද්‍යාලයෙන් , මොණරාගල කිවුල්ලියා විද්‍යාලයෙන්, දොඹගහවෙල විද්‍යාලයෙන්, කොට්ඨාශවෙල විද්‍යාලයෙන් වැසි ජලය රැස්කිරීමේ පද්ධති ඉදිකිරීම සිදුකළා. පසුව වැල්ලවාය ප්‍රාදේශීය ලේකම් කොට්ඨාශයේ බලහරුව හා ඇතිලිවැව ප්‍රදේශවල , සියඹලාණ්ඩුව ප්‍රාදේශීය ලේකම් කොට්ඨාශයේ ඇතිමල්ලේ ප්‍රදේශයේ ගෘහස්ථ වැසිජල රැස්කිරීමේ පද්ධති ඉදිකිරීම සිදුකලා. භූගත ජල ආරෝපණ පද්ධති වැල්ලවාය ප්‍රාදේශීය ලේකම් කොට්ඨාශයේ බලහරුව ගමෙන් සියඹලාණ්ඩුව ප්‍රාදේශීය ලේකම් කොට්ඨාශයේ ඇතිමල්ලේ හා පහතරාව ගම්වල ඉදිකිරීමට මම සම්බන්ධ වුණා."



සිය අත්දැකීමෙන් හා පුහුණුවෙන් ලද තාක්ෂණික දැනුම තවත් තරුණ තරුණියන් වෙත ලබාදෙමින් ඔවුන්ට ජීවනෝපායන් සරි කරගැනීමට උපකාර කිරීමට හා ඔවුන් සවි බලගැන්වීමට මල්කාන්ති සමත් විය. විශේෂයෙන්ම රැකියාවිරහිත තවත් කාන්තාවන් පෙදෙරේරුවරියන් ලෙස පුහුණු කිරීම මගින් ඔවුන්ට ආර්ථික වශයෙන් සවිමත් වීමට මල්කාන්ති පිටුවහලක් විය.

" මම මොණරාගල දිස්ත්‍රික්කයේ ඇතිමල්ලේ ප්‍රදේශයේ වැඩ කරද්දී සමීර හා තරිඳු දෙනෙකු මට කීවා ඔවුන්ගේ මේ වැසිජල රැස්කිරීමේ පද්ධති ඉදිකරන්න කැමති කියලා. මම ඔවුන් දෙදෙනාට වැසිජල රැස්කිරීමේ පද්ධතියක් ඉදිකරන ආකාරය කියලා දුන්නා, ඔවුන් පුහුණුකරා. ඔවුන් කෙටි කාලයක් මාව එක්ක වැඩ කරා දැන් තනිවම වැසි ඉදිකිරීම් කටයුතු සිදුකරනවා.මම වැල්ලවාය, ඇතිලිවැව ගමේ වැඩකරද්දී ශ්‍රියානි මට මුණගැසුණා. ඇය මට කීවා ඇයට රැකියාවක් නැහැ ඇයත් ඉදිකිරීම් කටයුතු වලට පෙදෙරේරු වරියක් විදිනට එකතු වෙන්න කැමති කියලා. මම ගොඩක් සතුටුටුණා තවත් කාන්තාවක් එක්ක වැඩ කරන්න. මම ඇයව පුහුණුකරා. පසුව මහආරගම ප්‍රදේශයේ ඉදිකිරීම් කටයුතු කරද්දී, ආර් ඩී ප්‍රියන්ත කුමාර හා සසංක සඳරුවන් දෙදෙනාත් පුහුණු කලා."

මල්කාන්ති 2021 දෙසැම්බර් මසදී නේපාලයේ පැවැත්වුණු වැසිජලය රැස්කිරීමේ පද්ධති ඉදිකිරීමේ පුහුණු වැඩසටහනට ලංකා වැසිජලය රැස්කරන්නන්ගේ සංසදය නියෝජනය කරමින් පුහුණුකාරිනියක ලෙස සහභාගිවුවාය. දෙසැම්බර් 2 වනදා සිට 12 වනදා දක්වා නේපාලයේ පොකාරා හි පැවැත්වුණු පුහුණු වැඩසටහනේ දී ශ්‍රී ලංකාවේ වර්ධක හැඩති වැසි ජල රැස්කිරීමේ පද්ධතියක් ස්ථාපනය කරන ආකාරය සහභාගිවුවන්ට පුහුණු කිරීමට හා ඔවුන් සමග එක්ව පොකාරා හි බග්නාස් ප්‍රදේශයේ වැසිජල රැස්කිරීමේ පද්ධතියක් ස්ථාපනය කිරීමට ඇයට හැකිවිය.



# ඇතිලිවැව සිට නේපාලයට

" මට ලංකා වැසිජලය රැස්කරන්නන්ගේ සංසදයේ විධායක අධ්‍යක්ෂිකා ටුනුෂා මැඩම් කතා කරලා කීවා නේපාලයේ පුහුණු වැඩසටහනකට සහභාගිවෙන්න අවස්ථාවක් ලැබිලා තියෙනවා කියලා. මම කවදාවත් විදේශ රටකට ගිහින් තිබුනේ නැ. මුලින්ම බයක් ඇති වුනත් මම ලංකාවේ පුහුණු කිරීම් කරලා තිබුණ නිසා මේ අභියෝගය බාරගන්න කියලා මම හිතුවා. මට තිබුන ලොකුම චිකිත්සා තමා භාෂාව. මට හරි ආකාරයෙන් සන්නිවේදනය කරගන්න බැරවෙයි කියලා ලොකු බයක් තිබුණා. නමුත් මම හිත ගත්තමින් කරගෙන ගමනට සුදානම් වුණා. ටුනුෂා මැඩම් ඒ ඉදිකිරීම් කටයුතු සිදු කලයුතු ආකාරය මට සම්පූර්ණයෙන්ම කියලා දුන්නා. ඒ සඳහා අවශ්‍ය රාමුව ඔවුන් යානයේ රැගෙන යන්න සුදුසු විදිනට සකස් කරගැනීමට අපට සිදුවුණා."

දින දහයක් පැවති පුහුණු වැඩසටහනට සිය දායකත්වය දැක්වූ අයුරු මල්කාන්ති මෙසේ පැහැදිලි කලාය.

"නේපාලය ඉතාම ලස්සන රටක්. සීතල දේශගුණයට මම ඉතාම කැමති. මෙම පුහුණු වැඩසටහන සංවිධානය කල කාන්තාවන් නේපාල් ආයතනයේ නිලධාරීන් කන්මන්ඩු අගනුවර සිට පොකාරා නගරයට මාව රැගෙන ගියා. වැසිජලය රැස්කිරීමේ පද්ධතිය ඉදිකිරීමේ පුහුණු වැඩසටහන පැවැත්වුනේ පොකාරා නගරයේ බෙග්නාස් ප්‍රදේශයේ. එම ප්‍රදේශය ජලය හිඟ කඳු සහිත ප්‍රදේශයක් වීම ප්‍රදේශයේ කාන්තාවන් වේවැල් වැනි ද්‍රව්‍යකින් හදුනා කුඩා භාවිතා කරමින් ජලය නිවෙස් වලට රැගෙන යන්නේ. පුහුණු වැඩසටහනට සමගාමීව ඉදිකරන වැසිජල රැස්කිරීමේ පද්ධතිය ඉදිකිරීම සිදුකලේ නේපාල ජාතික පවුලකට අයත් නිවසක. එම නිවසේ කාන්තාවන් දෙදෙනෙක් හා පුරුෂයන් දෙදෙනෙක්ජීවත්වුණා. එයින් වයස්ගතම කාන්තාවට අවුරුදු 107ක් වෙනවා."



"පුහුණු වැඩසටහන සඳහා පස්දෙනෙක් සහභාගිවුණා. ඔවුන් සියලුම දෙනා නේපාල ජාතිකයන්. ගුලුල් පර්වර්තකය යොදාගෙන තමයි සන්නිවේදන කටයුතු සිදුකරේ. නමුත් මුල් අදියරේ සිට අවසානය දක්වාම ඔවුන් ඉතා දක්ෂ ලෙස කියාදෙන දේ ඉක්මනින් අවබෝධ කරගැනීමට සමත්වුණා. ඒනිසාම ඉක්මනින් වැසි ඉදිකිරීම් කටයුතු සිදු කරන්න ඔවුන්ට හැකිවුණා. ඔවුන්ගේ ඒ හැකියාව මම ඉතාම අගය කරනවා."

"වැසි ඉදිකිරීම් කටයුතු කරද්දී භාෂාව අවබෝධකරගැනීමට ඇතිවුන ගැටළු වලට අමතරම තිබුන විශාලම බාධකය වුනේ සුරියාලෝකය නිසි අයුරින් නොලැබීම. ලැබුණු මද සුරියාලෝකය නිසා වැසි ඉදිකිරීමේ පද්ධතිය වෙලෙන්ගත ගතවන කාලය වැඩිවුණා. නමුත් නියමිත කාලයට වැසියේ වැඩ අවසන් කරගැනීමට ලැබීම විශාල ජයග්‍රහණයක්. වැසිජල රැස්කිරීමේ පද්ධතිය ඉදිකර අවසන් වුනාම ඒ නිවසේ අය ගොඩක් සතුටුටුණා, ඔවුන් සියලුදෙනාටම කෘතඥ වීම වලින් සංග්‍රහ කරා. ඔවුන්ගේ සම්ප්‍රධානානුකූල ආකාරයට මල්මාල සළු පළඳලා මට ස්තූතියාලා. ඒ අවස්ථාවේ මට දැනුණු සතුට වචනයෙන් කියන්න බැරි තරම්"



එම පුහුණු වැඩසටහන සංවිධානය කල කාන්තාවන් නේපාල් ආයතනය මල්කාන්ති සඳහා අවශ්‍ය සියලු පහසුකම් සැපයීමටත් ඇයගේ සුරක්ෂිතතාවය තහවුරු කිරීමටත් අවශ්‍ය සියලු කටයුතු සම්පාදනය කරතිබීම හේතුවෙන් ඇයට සිය කාර්ය වඩාත් සාර්ථකව සිදුකරගැනීමට හැකිවිය

"කාන්තාවන් නේපාල් ආයතනයේ නිලධාරීන් මම නේපාලයේ රැඳී සිටි කාලය පුරාම මට අවශ්‍ය සියලුම පහසුකම් සලකා දුන්නා. මට අවශ්‍ය නවාතැන් පහසුකම් හා ආහාර ඔවුන් සුදානම් කර තිබුණා. එනිසි ලැබුණු නේපාලයට ආවේනික ආහාරපාන හරිම රසවත්. නේපාලයේ බෙග්නාස් අවට සුන්දර පරිසරය නරඹන්නත් ඔවුන් මට අවස්ථාව ලබාදුන්නා. මෙම පුහුණු වැඩසටහන සාර්ථකව නිමකිරීම හේතුවෙන් කාන්තාවන් නේපාල් ආයතනය විශේෂ සමරු පලකයක් ලංකා වැසිජලය රැස්කිරීමේ සංසදය වෙත ප්‍රධානය කරා. ඔවුන් මටත් සහතික පත්‍රයක් ලබාදුන්නා. "

මෙම පුහුණු වැඩසටහනට සහභාගිවීමට ලැබීම මගේ ජීවිතයේ සුවිශේෂී අවස්ථාවක්. එමනිසා මේ අවස්ථාව මට ලබාදීම සම්බන්ධයෙන් මම ලංකා වැසිජලය රැස්කරන්නන්ගේ සංසදයට, නේපාලයේ කාන්තාවන් නේපාල් ආයතනයට හා සැලැස් ආයතනයට ඉතාමත් ස්තූතියාලි වන්න වෙනවා.

උත්සාහය ඇත්නම් ඕනෑම අයෙකුට ඕනෑම අභියෝගයක් ජය ගතහැකිබවට මල්කාන්ති හොදම නිදර්ශනයකි. කෙතරම් බාධක හමුවේ වුවද අභියෝග ජයගෙන ඇය තම වගකීම මැනවින් ඉටුකිරීමට සමත්විය. තවත් බොහෝ කාන්තාවන්ට සිය අත්දැකීම් තුලින් ජීවිතය ජය ගැනීමට ඔවුන් දිරිගැන්වීමට ඇයට හැකිවේවැයි අපි ප්‍රාර්ථනා කරමු.



# Designing of the Rain Water Harvesting Calculator

Rainwater harvesting has been identified as a sustainable solution to water scarcity, through the National Rain Water Harvesting Policy by the government. However, there is still a gap in knowledge of the applicability and suitability of roof rainwater harvesting systems among Sri Lankan communities, and the government must assist them in self-understanding the potential of harvesting to cater to their domestic requirements as a future mitigation strategy in the event of a severe water crisis. Mr. Ruwan Ruhunage, working as a scientist (AR-1) in the Environmental Studies and Services Division (ESSD) of the National Building Research Organisation (NBRO), Sri Lanka, partnering with Lanka Rain Water Harvesting Forum (LRWHF), developed an excel-based mathematical simulation model to uplift public awareness and aid in the implementation of UDA regulations on rainwater harvesting.

Mr. Ruwan shared his experience. At first, we didn't think of making a rainwater calculator. We were working on a government-run project to develop a comprehensive technical guideline on rainwater harvesting. We had encountered difficulties in educating people about their ability to collect rainwater. It was by finding solutions that we came up with the idea of a rainwater calculator. We based our project on the rainwater calculator developed by IWMI, which had some weaknesses. We worked on reducing weak spots and building an easily accessible advanced calculator. "

The rainwater calculator is a user-friendly web-based online application. Users with or without prior knowledge of rainwater harvesting can easily get access to the data. This visual basic scripted Excel-based calculator has been designed with the incorporation of statistically treated meteorological data over ten years in all districts, numbers of research on past surveys, basic theories. Roof rainwater harvesting potential and bill of quantities are calculated to uplift the awareness of end-users in a systematic approach from volume estimations to design considerations.

*The Rainwater calculator is beneficial for users who do not have prior knowledge about rainwater variations. The calculator can be used by anyone with basic English knowledge to calculate the rainwater harvesting potential monthly or yearly in their area. This calculator is a tool for decision-makers, policy-makers, government officials, and researchers, etc.*

The overall structure of the excel sheet includes three different volume and dispersion calculators (demand and yield-based volume calculator, water volume desperation on usage calculator) with automotive functions for easy handling. Except for volumetric estimations, bills of quantities at current prices in the local market are integrated into the sheet to understand the construction cost of the entire rainwater harvesting system, including water quality-ensuring devices. The whole arrangement of the excel sheet consists of three different calculators on three different tiers with distinct mathematical simulations and a BOQ calculator. The tier 1 calculator can calculate the required quantity of water for drinking, cooking, bathing, sanitation, and gardening during long dry spells to fulfill diverse requirements per family. Past survey data of water usage per family in Sri Lanka was embedded. Therefore, end-users can handle it easier to calculate reliable and precious water requirements, and also, it has the ability to handle user-defined values of requirements.

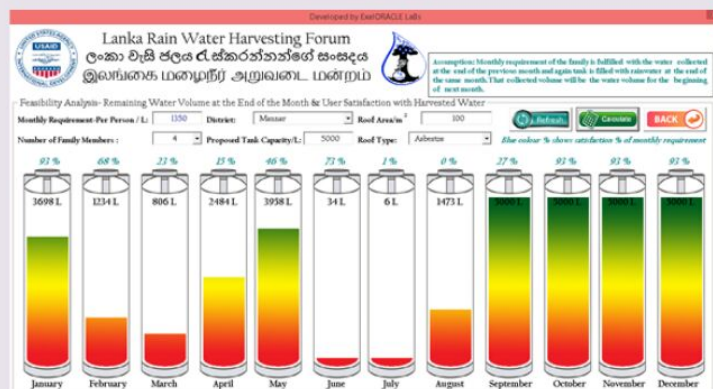
The Tier 2 calculator can calculate the monthly harvestable water volume based on past rainfall values of the required district, user-defined roof catchment type, and area. Moreover, a separate option is provided to insert customized rainfall values without selecting district rainfall. The Tier 3 calculator can produce a graphical interpretation of the remaining water at the end of the month for any given year based on proposed tank capacity and water consumption. Also, the remaining water volume in liters and the satisfaction percentage at the end of the particular month are calculated based on monthly demand for a better understanding of the end-user. This simulation was created with the implicit assumption of maintaining a weighted model, which aids in avoiding running errors.

Mr. Ruwan highlighted some areas that could be of interest to those looking to upgrade this device. Nowadays, rainfall patterns change rapidly. The tendency for extreme events has increased. If we could feed the real-time, updated rainfall data to the calculator, it would increase the data accuracy. The simulation model can be developed to different levels to suit the satisfaction level of the user. It would be preferable if a graphical interpretation could be developed, as this would aid users in understanding the outcome.

Mr. Ruhunage recalled the reasons behind this successful project, "I thank Dr. Tanuja for giving me the opportunity to develop this calculator. By giving all the guidance and support, I was able to publish a research paper at the international conference that was organized by SARNET. Also, there was a team behind the project who always backed me up to complete this task. I remember the former director of NBRO, Mrs. SV Dias, who initiated the idea of developing this calculator, the Director of NBRO, Mr. HPS Premasiri, the Director-General of NBRO, Dr. Asiri Karunawardene, Senior Scientist Madara Dissanayake, Scientist Prabhath Liyanarachchi, Trainee Scientist P H Asanka, Engineer Pooja Evtigala, Engineer Kasthuri Nalin, and field assistant Supun, gratefully" said Mr. Ruhunage.



**Tier 1: Demand base calculator**



**Tier 3: Adequacy of proposed water tank capacity calculator**

# வீட்டுத்தோட்டப் போட்டி கிளிநொச்சி மற்றும் முல்லைத்தீவு மாவட்டங்கள்

கிளிநொச்சி மாவட்டத்தில் கண்டாவளை பிரதேச செயலகப் பிரிவில் உள்ள பாடசாலைகளான கிளிஃபிரமந்தனாறு மகா வித்தியாலயம், கிளிஃபுன்னைநீராவி அ.த.க.பாடசாலை, கிளிஃதருமபுரம் மத்திய கல்லூரி மற்றும் கரைச்சி பிரதேச செயலகப் பிரிவில் கிளிஃஇராமநாதபுரம் மேற்கு அ.த.க.பாடசாலை, கிளிஃவன்னேரிகுளம் மகா வித்தியாலயம், கிளிஃஐயனார்புரம் அ.த.க பாடசாலை ஆகிய பாடசாலைகளில் மாணவர்களுக்கிடையிலான வீட்டுத்தோட்ட செயற்பாட்டினை மேம்படுத்தல் அல்லது மெருகூட்டுதலுக்கான போட்டி ஒன்று நடாத்தப்பட்டது. இம்மாணவர்கள் தங்களின் வீடுகளில் கிடைக்கக்கூடிய நீரினை அடிப்படையாக வைத்து (கிணற்று நீர், குழாய்கிணற்று நீர்) இச்செயற்பாடு நடாத்தப்பட்டது.

2021ம் ஆண்டு பெப்ரவரி மாதம் 6,10,24ம் திகதிகளில் “சிக்கனமாக நீரினை பயன்படுத்தி இயற்கை பசளை பாவனைமூலமாக வீட்டுத்தோட்டத்தினை அமைத்தலும் பராமரித்தலும்” எனும் தொனிப்பொருளில் இவர்களுக்கான கருத்தரங்குகள் கிளிநொச்சி மாவட்ட வலயக் கல்வி பணிமனை விவசாயப்பீட வளவாளரான திருமதி.தர்மகுலசூரியன் அவர்களால் நடாத்தப்பட்டது. இக்கருத்தரங்கில் இயற்கை பசளை செய்முறை மற்றும் பாவனை, கிளிநொச்சி மாவட்ட காலநிலைக்கேற்ப இங்கு பயிரிடக்கூடிய



பயிர்வகைகள், சிக்கனமாக நீரை பயன்படுத்தும் வழிமுறைகள் என பல விடயங்கள் விளக்கக்காட்சிகளுடன் கற்பிக்கப்பட்டது. அத்துடன் இவர்களது வீட்டுத்தோட்டத்தில் காய்கறிகள், கீரைவகைகள், பழங்கள், மூலிகைத்தோட்டம் என அனைத்தும் உள்ளடங்கிய போட்டிக்கான செயற்றிட்டமாகவே இக்கருத்தரங்கு அமைந்திருந்தது. இதில் கண்டாவளை பிரதேச செயலக பிரிவில் 26 மாணவர்களும் கரைச்சி பிரதேச செயலகப் பிரிவில் 36 மாணவர்களும் மொத்தமாக 62மாணவர்கள் பங்குபற்றினர்.

இவர்கள் தங்கள் தோட்டங்களில் கத்தரி வகைகள், பயிற்றை, வெண்டி, பாகல், தக்காளி, பூசனி இனங்கள், கிழங்கு வகைகள், அவரை இனங்கள், மிளகாய் இனங்கள், அன்னாசி, வாழை, கொய்யா, மா, மாதுளை, ஆணைகொய்யா, கீரைவகைகள், தூதுவளை, கற்றாளை, துளசி, மஞ்சள், இஞ்சி என பலதரப்பட்ட பயிரினங்கள் மாணவர்களால் பயிரிடப்பட்டிருந்தன. நாங்கள்(ம.சே.ம.) இத்தோட்டத்தினை மார்ச் மாதம் தொடக்கம் ஜூலை மாதம் வரை மாதாந்தம் கண்காணித்து, முதல் சுற்றில் 26 மாணவர்கள் தேர்ந்தெடுக்கப்பட்டனர். பின்னர் இறுதிச் சுற்றுக்காக 15 மாணவர்கள் தேர்ந்தெடுக்கப்பட்டனர்.



15 மாணவர்களுக்குமான இறுதிச்சுற்றினை கிளிநொச்சி மாவட்ட வலயக்கல்வி பணிமனையின் விவசாயப்பீட வளவாளரான திருமதி.தர்மகுலசூரியன் அவர்களும் விவசாய பணிமனையைச் சேர்ந்த ஸ்ரீரங்கன் அவர்களும் ஒவ்வொரு வீடுகளுக்கும் 2021. ஆகஸ்ட் மாதம் 12, 13, 16ம் திகதிகளின் மேற்பார்வை செய்து இவர்களுக்கான மதிப்பெண்களை வழங்கினர். அத்துடன் மாணவர்களுக்கான மேலதிக விளக்கங்களும் இங்கு வழங்கப்பட்டதோடு, பெற்றோர்களுக்கும் மேலதிக விளக்கங்களும் ஆலோசனை களும் வழங்கப்பட்டன.

தில் கிளிஃபிரமந்தனாறு மகா வித்தியாலயத்தினைச் சேர்ந்த பி.தணிகை 1ம் இடத்தினையும் கிளிஃஇராமநாதபுரம் மேற்கு அ.த.க. பாடசாலையினைச் சேர்ந்த பி.டினோசிகா 2ம் இடத்தினையும் மற்றும் அதே பாடசாலையைச் சேர்ந்த பி.கி-ஹினி 3ம் இடத்தினையும் பெற்றுக்கொண்டனர். இவர்களுக்கான விருதுகளும் சான்றிதழ்களும் பெருமதிமிக்க பரிசுப்பொருட்களையும் வழங்கியதோடு ஏனைய 12 மாணவர்களுக்கும் சான்றிதழ்களும் பெருமதிமிக்க பரிசுப்பொருட்களையும் மழைநீர் சேகரிப்பு மன்றம் வழங்கி கௌரவித்ததில் பெரு மகிழ்வு அடைகின்றோம்.



# Rainwater Harvesting for Industries

## *Experiences of the Apparel Industry in Bangladesh and Sri Lanka*

Across South Asia and in many other parts of the world industries are lavish consumers of water. Some examples for high water-consuming industries are Textiles & Apparels, Power generation and beverage. The apparel industry is one of the key water dominant industries and has a lot of insights to offer in terms of water consumption and conservation. The 07th webinar of the SARNET bi-monthly webinar series concluded on the 30th of November last week featured some best practices from the apparel industry in Bangladesh and Sri Lanka.

The webinar on the topic of " Rainwater Harvesting for Industries; Experiences of the Apparel Industry in Bangladesh and Sri Lanka" was attended by many development practitioners, academics and other enthusiasts from South Asia and other parts of the world. Mr Zahid Hossain, a consultant to the UNICEF having long years of experience in the development sector from Bangladesh and Mr. Harsha Deraniyagala, General Manager, MAS Holdings a chartered engineer and a consultant to the Board of Investors in Sri Lanka presented the best practices on water use in the apparel industry. This webinar was moderated by Professor Polanki Sivaram from National Institute for Rural Development (NIRD), Hyderabad, India.

Globally textile & apparel industries use around 93 billion cubic meters of water per year, which is 4% of all freshwaters extracted globally. In addition, water is required for drinking and sanitation purposes of the employees explained Prof Sivaram introducing the topic of the webinar.

The average rainfall is 1500mm in Bangladesh and the country's rainfall varies between 1500mm to 4000mm According to the records (2016) of Participatory Clean Textile (PACT) and initiative led by the International Finance Corporation of the World Bank the water requirement for washing and dyeing in the apparel sector is 250L to 300L. This is equivalent to the daily water use of two people. In Bangladesh, there are 6850 factories including 4850 textile average catchment area is 8000Sqft. According to a study done by the government of the Netherlands and Bangladesh, the RMG and the textile sector in Bangladesh are consuming 1500 liters annually.

With the support of Water Aid, 4 RMG and textile factories in Narayanganj District in Bangladesh constructed rainwater harvesting in the factory premises. The factory of Next Accessories Ltd is among the apparel companies that constructed rainwater harvesting tanks under this initiative. This factory collects rainwater and after the filtration process the water is supplied for sanitation and gardening purposes and surplus water is recharged through the recharge pit into the underground aquifer. Fakir Fashion Ltd uses it for production purposes for washing and dyeing. Metro Knitting and dyeing mills Ltd also use rainwater harvesting in the same manner for dyeing and washing purposes. Epic garments manufacturing company limited is situated in the Adamjee Export Processing Zone. In this zone, all the factories have to purchase water. This factory also collects rainwater and once processed in the underground filter the water is supplied for washing and dyeing purposes.



*LEED (Leadership in Energy and Environmental Design) is the most widely used green building rating system in the world. LEED certification is a globally recognized symbol of sustainability achievement and leadership. A total of 13 best green building factories of Bangladesh were honored with the "LEED Green Factory Award" to recognize their effort in sustainability by achieving LEED platinum certification.*

Mr. Zahid Hossain provided insights on the benefits of rainwater over groundwater for the apparel industry. Mr Hossain on explaining the Bangladesh country context stated that the rainfall and catchment area of Apparel industries can bring an annual saving of 360 Crore Takas/ US\$40 million to the country annually. Every factory should have the LEED certificate the factories should get the 120 mark and rainwater harvesting has support to get the LEED certificate.

Mr. Harsha Deraniyagala presented the water conservation experiences of the MAS fabric park which is part of MAS Holdings. The area of the MAS fabric park has a 165-acre green zone. This zone has initiated many sustainability initiatives including the development of inland surface ponds for rainwater harvesting and stormwater diversion. Mr. Deraniyagala stated that the apparel industry being a water dominant industry the harvesting potential of rainwater and the diversion of stormwater is of paramount importance for water generation for the industry demands.

The inland surface ponds for rainwater harvesting and stormwater diversion at the MAS fabric park was constructed with the zone development by diverting water into green fields and non-industrial areas to store water for the application. These initiatives provide a storage volume of 20,000 cubic metres of water. The ponds were constructed compacted in soil with geotextile membranes to protect the water that was harvested from getting lost due to ground progression.

The main source of water for the inland ponds is the river and from roof water harvesting and Greenfields connected. Portions of river water and rainwater are diverted into the plant.

Diverting more and more rainwater contributes to reducing the need for energy and chemicals required for treating the water. More than 100,000 Sqft of water and 20 to 30 acres of land are connected with the first flow manhole. These ponds enhance inland water systems, ecosystems, groundwater quality and reduce the heat impact as well. Mr. Deraniyagala explaining the benefits of the system stated that 10 to 15% of industrial water needs are addressed because of these applications. He also explained the organizational goal towards reducing the water footprint is to reduce water use by 65% calculating from the base year of 2010. Mr. Deraniyagala stated that already there is a reduction of 40 to 42% of the water use.



The discussion that followed the presentations highlighted the need for organisations to communicate the progress related to water conservation efforts and the importance of having a water management policy for industries. A recommendation was to draft the policy in consultation with a group of experts and for the respective country-level governments to take a lead role in the implementation of regulatory processes.

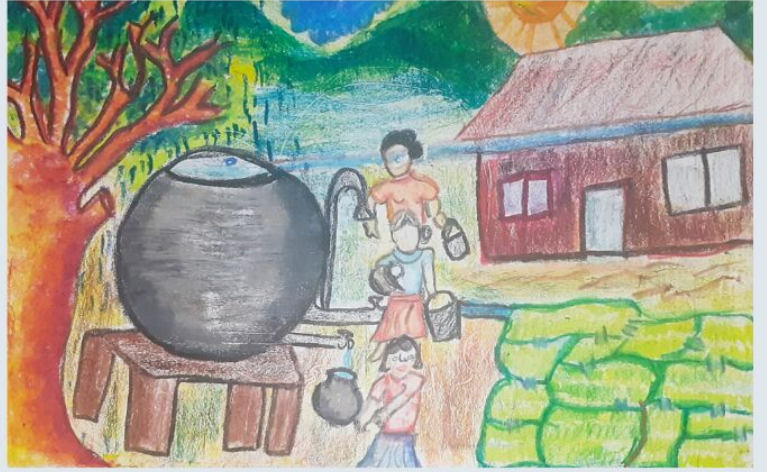
In South Asia, only some countries have regulations and policies that support rainwater harvesting. In Sri Lanka, there is a policy since 2005 which gives directions and makes it mandatory for new buildings to have rainwater harvesting systems.

The discussion also revealed that pressure from the United States and Europe demanding the application of sustainable practices have contributed towards changing the practices and applications of the apparel industry in a positive nature. A key recommendation for the civil society and governments was to have a mechanism to recognize the good practices related to water conservation applied by the apparel industries and to create a conducive environment for scaling up such practices.

# Children's Corner



**R.D Sachin Nitkesha Wathupitiya**  
Grade 08  
B/ Pussallakanda MV



**Panchadcharam Abilash**  
Grade 08  
B/ Bharathy MV



*Happy New Year*

FROM LANKA RAIN WATER HARVESTING FORUM

**වර්ෂා**  
වර්ෂා varsha වර්ෂා

Please send your creations, ideas, letters, articles, suggestions to the address given.

මෙහි අදහස්, යෝජනා, නිර්මාණ සහ ලිපි මෙම ලිපිනයට එවන්න

உங்கள் ஆக்கங்களையும் ஆலோசனைகளையும் கட்டுரைகளையும் பின்வரும் முகவரிக்கு அனுப்பி வைப்புகள்.

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