

members of the public on all matters connected with the EIA process. Focal points of the PAA represent the PAA/EIA Inter Agency Committee.

- (c) Facilitate EIA preparation through close liaison with PPs.
- (d) Receive and evaluate compliance monitoring reports.

1.5.2 EIA Oversight Committee

The Secretary of the PAA Ministry, or the Head of the PAA department or the Chief Executive of the PAA Authority / Bureau should chair an EIA Oversight Committee whose administrative secretary will be a member of the EIA Cell of the PAA. The Committee should include a small number of members representing each of the primary (and environmentally important) components of the PAA, including components with legal responsibilities affecting project approval. Meetings should be no less than quarterly or as and when required. A representative of the CEA could be an observer of the proceedings of the Committee.

If any member of the Oversight Committee is a proponent of a project being revived, such member shall desist from being a member of the Oversight Committee.

Its duties are to:

- ◆ Advise the chairman (as the legally responsible person for EIA compliance under the NEA) on EIA process decisions;
- ◆ Oversee PAA compliance with EIA requirements and policies of the NEA;
- ◆ Identify needs for policy and procedural direction to PAA components to improve EIA compliance;
- ◆ Make project decisions based on completed EIAs;
- ◆ Assess problems and make recommendations;

1.5.3 Technical Evaluation Committee (TEC)

A temporary Technical Evaluation Committee should be formed for each IEE/EIA for which a PAA is the responsible agency. This Evaluation Committee should be comprised of technical level people charged with all technical aspects of the EIA process. The committee should prepare a TEC report to be used in decision making. Technical personnel may include members of the EIA Oversight Committee, experts from within the PAA, and others from government agencies, NGOs, academic institutions,

and elsewhere. However, the PAA must ensure that such technical personnel have no conflicts of interest with the preparation of the EIA by the project proponent. The PAA may wish to establish a list of appropriate technical experts to draw upon. The Technical Evaluation Committee should be chaired by a member of the EIA Cell of the PAA. It should communicate all technical evaluations and decisions to the EIA Oversight Committee, referred to above. It will meet as often as necessary. The Evaluation Committee may also serve as the PAA's monitoring arm to ensure compliance with EIA mitigation/monitoring requirements. Role of the CEA in this committee will be to administer the procedure in respect of EIA.

1.6 PAA as designated appropriate agency

Project proponent can submit Preliminary Information (PI) to CEA and on following criteria CEA will decide an appropriate PAA.

A single PAA will be established as responsible for guiding the preparation of an IEE or EIA. Actual preparation of the IEE/EIA will be the responsibility of the developer or project proponent (PP). Determination of the appropriate PAA will be based on the following unranked criteria:

- ◆ the PAA having jurisdiction over the largest area, or
- ◆ having jurisdiction over diverse or unique ecosystems, or
- ◆ within whose jurisdiction the environmental impacts (resource depletion) are likely to be the greatest,
- ◆ the PAA having statutory authority to license or otherwise approve the prescribed project.

If PAAs are unable to agree among themselves on which agency will be the appropriate agency, or if there is unreasonable delay in making a decision, any of the PAAs or a project proponent shall request the CEA to determine which agency should be the lead agency. The CEA will promptly designate a responsible PAA based on the above criteria and will notify the PP and the PAAs concerned.

If a PAA is the project proponent, the CEA will identify the appropriate PAA.

1.7 Co-operating Agencies

It is advisable that upon request of the responsible PAA, any other state agency which has jurisdiction by law or has special expertise should be a co-operating agency in the IEE/EIA process. In such cases, the designated PAA should:

1. Request the participation of each co-operating agency in the EIA process at the earliest possible time;
2. Use the environmental analysis and proposals of co-operating agencies with jurisdiction by law or special expertise, to the maximum extent possible, consistent with its responsibility as the appropriate PAA;

Each co-operating agency should:

1. participate in the EIA process at the earliest possible time, including the scoping process;
2. Assume (on request of the designated PAA) responsibility for developing information for the EIA process.
3. Make available staff support at the designated PAA's request, and normally use its own funds for this purpose.
4. Integrate its own permit/licensing or other legal functions relating to the prescribed project into the information gathering, analysis, and decision schedule of the IEE/EIA.

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2. PROCEDURES FOR COMPLIANCE WITH REGULATIONS

2.1 Preliminary information (PI) requests

It is the responsibility of PAAs to obtain information from project proponents at the earliest practical stage regarding the nature, location, and impacts of a proposed project that requires an IEE or an EIA. CEA has already compiled checklists and questionnaire in order to collect Preliminary Information. PAA may use them for obtaining Preliminary Information from project proponents. PAAs should prepare preliminary information for use by project proponents that can be adapted to different kinds of projects. Information requested should:

- ◆ help the PAA determine whether an IEE or EIA is required;
- ◆ help the PAA identify questions and issues for attention in the scoping process, including whether an IEE or EIA is required, and what such documents should require;
- ◆ to the extent possible, satisfy requirements for an IEE if no EIA is required.

PAAs may obtain help from the CEA and other PAAs on preliminary information forms and questionnaires.

2.1.1 Notice of adequacy of Preliminary Information

Once the PAA is satisfied that adequate preliminary information has been received, the PAA should acknowledge its receipt in writing within six (6) days. When documents are found inadequate, the PAA should so inform the PP as early as possible (Appendix 3).

2.2 Scoping

There should be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. This process is termed scoping.

As part of the scoping process the appropriate PAA should:

1. Invite the formal and informal participation of all concerned agencies, the proponent of the action, and other interested persons (including representatives of the affected public and others who might not be in accord with the action on environmental grounds);

2. Determine whether the PP should be asked to prepare an IEE or EIA, unless an adequate IEE has already been presented.
3. Determine the scope and the significant issues to be analyzed in depth in the IEE/EIA; (Reasonable alternatives that should be addressed in the case of an EIA should also be determined at the scoping).
4. Determine reasonable alternatives that should be addressed in the IEE/EIA
5. Identify and eliminate from detailed study the issues which are not significant or which have been covered by prior studies or environmental reviews;
6. Set the Terms of Reference (ToR) for the IEE/EIA;
7. Communicate regularly with the developer in the preparation of the required document;

As part of the scoping process the responsible PAA may:

1. Set page limits on the required document;
2. Set schedules and time periods as necessary;
3. Identify the sectors of required expertise for preparing the IEE/EIA.
4. Hold an early scoping meeting or meetings which may be integrated with other early meetings or processes already established by the PAA.

2.2.1 Scoping Guidance Document

Detailed guidelines on the scoping process is already issued as guidance No. 2 by the CEA for assistance to PAAs.

2.3 Criteria for IEE or EIA -- Determination of Significant Impacts

PAAs should determine whether an IEE or EIA is required for a proposed project based on an assessment of the likely significance of the impacts of the proposed project on the environment. EIAs, rather than IEEs, should be required for prescribed projects under the regulations that are likely to have significant impacts on the environment. PAAs should develop their own criteria for determining significant impacts in the form of checklists and other guides based on USAID, World Bank, Asian Development Bank, and other materials. The following is a basic approach for guidance.

Significant environmental impacts: "Significant impacts" should be determined based on considerations of both context and intensity:

- (a) **Context.** This means that the significance of an action should be analyzed in several contexts such as, the impacts on the nation as a whole, impacts on a particular region or type of activity, and impacts on a specific community. Significance varies with the setting of the proposed action. Both short and long-term effects are relevant.
- (b) **Intensity:** This refers to the severity, magnitude or nature of impact likely from a proposed project. The following may be considered, among others, in evaluating intensity:
1. Impacts that may be considered both beneficial and adverse. A significant impact may occur even if the proponent or PAA believes that on balance the effect will be beneficial;
 2. The degree to which the proposed action affects public health or safety;
 3. The degree to which a proposed action would affect unique characteristics of a geographic area, such as religious or cultural resources, archaeological resources (including those that may exist but have not been legally designated), nature reserves, wetlands, scenic areas, ecologically critical areas, environmentally sensitive areas, or endangered or threatened species of plants or animals;
 4. The degree to which the impacts on the environment and related social conditions are likely to be highly controversial;
 5. The degree to which the possible effects on the environment are highly uncertain or involve unique or unknown risks;
 6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration;
 7. Whether the action is related to other actions whose impacts are individually insignificant but which cumulatively are apt to be significant. Significant impacts may occur if it is reasonable to anticipate a cumulatively significant impact on the environment. These impacts cannot be avoided by terming an action temporary, or by breaking it down into small component parts (for example, one segment of a large irrigation project).
 8. The degree to which a proposed action may affect the right of future generations to benefit from environmental and cultural resources.

2.4 Preparing the Terms of Reference (TOR)

Effective and efficient compliance with the NEA will require that IEEs undergo the simplest possible process of preparation consistent with their basic purpose. In issuing a TOR for an IEE, PAAs should substantially follow the basic format for IEEs included in Appendix 1. Guidance could be obtained from CEA on TOR preparation. See Appendix 7 on sectoral Environmental manuals prepared by CEA.

PAAs should prepare the TOR for preparation of an EIA in order to achieve the following objectives:

- a. EIAs should be analytic rather than encyclopedic.
- b. EIAs should discuss impacts in proportion to their significance. There should be only brief discussion of other than significant issues.
- c. EIAs should be concise and should be no longer than absolutely necessary to comply with the NEA and its regulations.
- d. EIAs should serve as the means to assess the environmental impacts of the proposed prescribed project and reasonable alternatives, rather than to justify decisions already made.

TORs should be concise, and they should follow a regular format to facilitate compliance by proponents, consulting entities, and efficient IEE/EIA review by the PAA. TORs should ensure that EIAs are prepared to meet the EIA requirements and format discussed in Section 3.

2.5 Timing of EIA process

A project proponent should commence the IEE/EIA process as close as possible to the time that it develops the proposal. By ensuring that project proponents do this the PAA can ensure that IEE/EIA preparation can be completed in time to meet decision making schedules and deadlines. The IEE/EIA should be prepared early enough so that it can practically contribute to the decision making process and will not be used to rationalize or justify decisions already made.

For projects directly undertaken by public entities, the IEE/EIA should be prepared at the feasibility or pre-feasibility (go-no go) stage. The EIA may be supplemented at a later stage if necessary. For applications by private proponents to the PAA, appropriate environmental assessments should be commenced immediately after the application and preliminary information are received and as early in the planning stage as possible.

3. EIA CONTENT AND FORMAT

3.1 Recommended Format

EIAs should be prepared using a format that will encourage good analysis and clear presentation of the alternatives including the proposed action. The following standard format for EIAs should generally be followed unless the agency determines that there is a compelling reason to do otherwise.

- ◆ Inner Cover sheet
- ◆ Table of Contents
- ◆ Executive Summary
- ◆ Proposed Action's Purpose, Need, and Legal Requirements
 - purpose of the EIA, EIA preparation process, legal actions required by government to approve action;
- ◆ Proposed Action and Reasonable Alternatives
 - description of proposed action, reasonable alternatives including mitigation measures
- ◆ Affected Environment
- ◆ Environmental Consequences of Proposed Action and Alternatives
 - comparison of impacts, including direct, indirect and cumulative impacts, insignificant impacts, irreversible and irretrievable commitments of resources, environmental evaluation criteria, application of criteria to proposed project and alternatives, environmentally preferred alternatives, and reasons why other alternatives are rejected in preference to the one's recommended;
- ◆ Extended Benefit Cost Analysis
 - Included if one has been prepared by the Project Proponent.
- ◆ Proposed Monitoring Plan
 - including institutional responsibilities and procedures for reporting and analysis. Guidelines on monitoring is being prepared by the CEA.
- ◆ Appendices
 - List of EIA preparers, references, backup data and analyses.

Appendix 2 provides additional guidance on the contents of the major sections of an EIA.

4. THE COMMENTING PROCESS

A manual on public participation has been published by the CEA which gives detailed guidance on the public commenting process.

4.1 Public Notice

On receipt of the IEE/EIA the PAA should make a preliminary assessment of its adequacy as expected in the TOR. If found adequate on *prima facie* review, the document should be open for public scrutiny for a period of 30 working days and must be so announced in the gazette and one newspaper in English, Sinhala and Tamil. The 30 day comment period will begin on the day in which a notice under subsection (2) is published. 30 days will be calculated excluding public holidays and Sundays.

4.2 Duty to comment

Cooperating agencies with jurisdiction by law or special expertise with respect to any IEE/EIA, and agencies which are authorized to develop and enforce environmental standards, should comment on assessments within their jurisdiction, expertise or authority and within the time period specified for comment.

4.3 Public comment facilitation and Evaluation

PAAs should establish procedures for making IEEs/EIAs readily available to the public for reading in Colombo and in the district or division in which the project is proposed. PAAs should establish an efficient process to allow copies of IEE/EIAs to be made for the public upon request and upon payment of the full reproduction costs by the requesting party or parties. PAAs should forward all comments received to the PP for review and response. Upon receipt of the PPs written response to comments (See Appendix 2), the PAA should evaluate the responses before making a decision.

4.4 Public Hearings

The NEA states that a public hearing may be held at the discretion of the PAA when it thinks that it would be in the public interest to do so. A variety of situations may fall within the meaning of "public interest," and these cannot be exhaustively defined. Factors for the PAA to consider are:

- ◆ whether a proposed prescribed project is highly controversial, whether more expressions of public views are essential to make decision;
- ◆ whether the proposed prescribed project might cause unusual national or regional impacts;
- ◆ whether it might threaten a nationally important environmentally sensitive area;
- ◆ whether a formal request for a public hearing has been requested by an interested party.

If it is decided to hold a public hearing, it should be held immediately after the expiration of the 30 day period for public comments, and before the PP is asked formally to comment on public and agency comments.

4.4.1 Public Hearings Guidance Document

The CEA has provided guidance to PAAs regarding how public hearings should be conducted, who should hold the hearing, who should be invited to testify, how time should be allocated, and how records should be kept, in a separate guidance document.

5. IMPLEMENTING THE DECISION

5.1 Monitoring of Projects

EIA regulations require the PAA to provide a monitoring plan to ensure that its decision is carried out and to submit the plan to the CEA within 30 days of project approval. Mitigation and other conditions established in the IEE/EIA during its review and committed to as part of the decision should be implemented by the developer and monitored by the PAA. The PAA should:

- a. Include appropriate mitigation conditions in grants, permits or other approvals.
- b. Conditional funding of government actions on mitigation by the proponent.
- c. Establish monitoring processes and monitoring responsibilities of public/private entities;
- d. Establish a means for compensating for monitoring costs by the government through fees, bonds, or other measures
- e. Upon request, inform commenting agencies on progress in carrying out proposed mitigation measures adopted by the agency making the decision.
- f. Upon request, make available to the public the results of relevant monitoring.

5.2 Timing of agency action

PAAs should follow the schedule requirements in the EIA regulations. These time requirements, legally only directory, are important to achieve the goals of the EIA process as an efficient management tool. Two other requirements are also critical:

- a. No decision on the proposed action should be made or recorded by a PAA during the 30 day public review period.
- b. No action by the PAA on the proposed action should be taken until the PP has responded to comments received on the EIA.

5.3 Emergencies

Consistent with legal requirements, where emergency relief circumstances (for example, land slides or floods) make it necessary to take an action with significant environmental impact without observing the provisions of these regulations, the agency taking the action should consult with the CEA about alternative arrangements.

5.4 Administrative Charges

The PAA is responsible for assessing and obtaining all necessary administrative costs from the PP. PAAs should establish budgetary provisions for meeting necessary EIA costs. However, a fund may be established, administered by the CEA, to help PAAs to meet operational costs of implementing the EIA requirements. Guidelines on levying of administrative charges is already issued by CEA for assistance of PAAs.

6. ABBREVIATIONS AND TERMINOLOGY

ABBREVIATIONS

CEA	-	Central Environmental Authority
EIA	-	Environmental Impact Assessment
IEE	-	Initial Environmental Examination
NEA	-	National Environmental Act
NGO	-	Non Governmental Organisation
PAA	-	Project Approving Agency
PI	-	Preliminary Information
PP	-	Project Proponent
TOR	-	Terms of Reference
TEC	-	Technical Evaluation Committee

TERMINOLOGY

Co-operating agency

"Co-operating agency" means any agency other than an appropriate PAA agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal project.

Cumulative impact

"Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Effects

"Effects" include :

- a. Direct effects which are caused by the action and occur at the same time and place.
- b. Indirect effects which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems including ecosystems.
Environmental effects and impacts as used in this document are synonymous. Effects include ecological (such as the effects on natural resources and on the components, structures and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social or health, whether direct, indirect or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects even if on balance the agency believes that the effect will be beneficial.

Appropriate PAA

The "appropriate" PAA is the ministry/department/authority or other public entity that is responsible for the EIA process for a proposed prescribed project.

Mitigation

"Mitigation" includes :

- a. Avoiding the impact altogether by not taking a certain action or parts of an action.
- b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- c. Rectifying the impact by repairing, rehabilitating or restoring the affected environment.
- d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- e. Compensating for the impact by replacing or providing substitute resources or environments.

APPENDIX 1.

Preparation of TORs for IEEs

IEEs are intended to be brief documents, generally no longer than 10 pages, to help decision makers to ensure that projects are implemented with appropriate mitigation measures that avoid significant impacts.

PAAAs may wish to establish page limits, checklists, or other guides for PPs to meet IEE requirements effectively and efficiently.

In general, IEEs should contain the following sections:

- ◆ Summary (1 page)
- ◆ Proposed Action's Purpose, Need, and Legal Requirements
 - legal actions required by government to approve action;
- ◆ Proposed Action
 - brief description of proposed action, including any mitigation measures designed to reduce environmental impacts. The IEE may need to contain a description of reasonable alternatives
- ◆ Affected Environment
- ◆ Environmental Consequences of Proposed Action and Reasonable Alternatives (if any)
- ◆ Mitigation and Monitoring Plan
- ◆ Appendices
 - List of IEE preparers, references, backup data and analyses.

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APPENDIX 2.

A. EIA CONTENT AND FORMAT

1. Recommended Format

Agencies should use a format for EIAs that will encourage good analysis and clear presentation of the alternatives including the proposed action. The following standard format for EIAs should generally be followed unless the agency determines that there is a compelling reason to do otherwise.

- ◆ Inner Cover sheet
- ◆ Table of Contents
- ◆ Summary
- ◆ Proposed Action's Purpose, Need, and Legal Requirements
 - purpose of the EIA, EIA preparation process, legal actions required by government to approve action;
- ◆ Proposed Action and Reasonable Alternatives
 - description of proposed action, no action alternative, other reasonable alternatives including mitigation measures
- ◆ Affected Environment
- ◆ Environmental Consequences of Proposed Action and Alternatives
 - comparison of impacts, including direct, indirect and cumulative impacts, insignificant impacts, irreversible and irretrievable commitments of resources, environmental evaluation criteria, application of criteria to proposed project and alternatives, environmentally preferred alternatives;
- ◆ Benefit Cost Analysis
 - Included if one has been prepared by the Project Proponent.
- ◆ Proposed Monitoring Plan
 - including institutional responsibilities and procedures for reporting and analysis.
- ◆ Appendices
 - List of EIA preparers, references, backup data and analyses.

The major sections are described below:

2 Guidance on EIA content

(a) Inner Cover sheet

The inside cover sheet should not exceed one page. It should include:

1. The title of the proposed action that is the subject of the assessment;
2. A list of preparers, including the consulting company (if any) responsible for the preparation of the EIAR. The original document should be authenticated by the preparers or by a responsible individual/s from the consulting company (if any).
3. The name, address, and telephone number of responsible person at the agency who can supply further information on the document;
4. A paragraph abstract of the EIA (for use in public notices of EIA availability);

The main text of the document should be translated into Sinhala and Tamil and made available for public scrutiny.

(b) Summary

Each EIA should contain an adequate and accurate summary. It should emphasize the major choices to be made, major conclusions, topics of controversy (including issues raised by agencies and the public in the scoping process), and the issues to be resolved (including the choice among alternatives). Summaries should not normally exceed 5 pages.

(c) Purpose, need and legal actions required by agencies

The EIA should briefly specify the underlying purpose and need to which the preparers are responding in proposing the alternatives including the proposed action.

This section should include a concise description of the legal steps required, and actions that must be taken (and findings that must be made), by specified government agencies in order to approve the project. In this way the EIA can be a management tool to identify all information needed to meet various legal requirements for project approval.

(d) Proposed action and reasonable alternatives

This section describes the proposed action and reasonable alternatives, which

1. should include those agreed upon in the scoping process. If subsequently determined to be unreasonable, the reasons should be discussed in this section;
2. may include reasonable alternatives not discussed at the scoping stage.
3. may be more restricted for private proposals than for government proposals because realistic options may be more restricted.
4. should always include the "no action" alternative, meaning one based on current practices without approval of the proposed project.
5. should always state clear reasons for rejecting the alternatives in preference to the one recommended.

(e) Affected environment

The EIA should succinctly describe the environment of the areas(s) to be affected by the alternatives under consideration.

- ◆ Descriptions should be no longer than is necessary to understand the effects of the alternatives;
- ◆ Data and analyses in an assessment should be commensurate with the importance of the impact;
- ◆ *Less important material should be summarized, consolidated or simply referenced.*

Preparers should avoid useless bulk in assessments and should concentrate effort and attention on important issues. Verbose descriptions of the affected environment are themselves no measure of the adequacy of an EIA.

(f) Environmental consequences and evaluations of proposed action and alternatives

This key section provides the scientific and analytic basis for comparing and evaluating the environmental impacts of the alternatives, including the proposed action. Impacts include:

1. Direct and indirect effects and their significance, including biological/ecological, health, historic, or cultural resource impacts;
2. Means to mitigate adverse environmental impacts.

3. Natural or depletable resource requirements of various alternatives including any irreversible or irretrievable commitments of resources affected if the proposal is implemented;
4. Adverse environmental effects which cannot be avoided if the proposal is implemented;

This section should evaluate alternatives in terms of explicit evaluation criteria. EIAs may contain a separate evaluation section of the EIA, or the evaluation may be included in this section on alternatives. The evaluation should present a means by which decision makers and the public can evaluate the various alternatives based on criteria drawn from existing law and policy. Criteria may concern such topics as industrialization, health, forest and wildlife conservation, and agricultural development.

The EIA should rigorously apply these criteria to each of the alternatives, including the proposed project, and objectively evaluate each one in detail. This analysis and display of basic criteria should sharply define the issues and allow the PAA to identify the environmentally preferred alternative.

(g) List of preparers

The EIA should list the names, together with their qualifications (expertise, experience professional disciplines), of the persons who were primarily responsible for preparing the EIA or its significant background papers.

(i) EIA Appendix

If an agency prepares an appendix to an EIA it should:

- a. Consist of material prepared in connection with an EIA (as distinct from material which is not so prepared and which is incorporated by reference);
- b. Normally consist of material which substantiates any analysis fundamental to the impact assessment;
- c. Normally be analytic and relevant to the decision to be made;
- d. Be circulated with the EIA or be readily available on request.

B. GENERAL GUIDE FOR PREPARING EIAs

1. Page limits

The text of EIAs (excluding appendices) should normally be less than 50 pages. For proposals of unusual scope or complexity it should normally be no more than 100 pages.

2. Writing

Environment impact assessments should be written in plain language and may use appropriate graphics so that decision makers and the public can readily understand them. PPs or consulting entities should employ writers or editors to write, review, or edit assessments, that will be based upon the analysis and supporting data from natural and social sciences.

3. Language

IEEs/EIAs may be in English, Sinhala or Tamil, but PPs must be advised that it may become necessary for the document to be made available to the public in Sinhala and Tamil at the public inspection.

4. Incorporation by reference

PPs should incorporate material into an EIA by reference when the effect will be to reduce bulk without impeding agency and public review of the action.

5. Incomplete or unavailable information

When a PP is evaluating reasonably foreseeable significant adverse effects on the environment in an EIA and there is incomplete or unavailable information, the PP should always make clear that such information is lacking.

1. If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives, and the overall costs of obtaining it are not exorbitant, the PP should include the information in the EIA.

2. If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because costs of obtaining it are exorbitant or the means to obtain the data are unknown, the PP should include within the EIA

- ◆ a statement that such information is incomplete or unavailable;
- ◆ a statement regarding the relevance of the incomplete or unavailable information to an evaluation of reasonably foreseeable significant adverse impacts on the environment.
- ◆ an analysis of any significant risks to, and impacts on, the environment based on a "worst case" eventuality (such as the bursting of a dam, explosion of a refinery, or nuclear incident from a nuclear power plant).

6. **Extended benefit cost analysis**

As it would facilitate the final decision making, Project proponents are encouraged to use Extended Benefit Cost Analysis for the project alternatives considered.. Guidelines prepared by CEA on Extended Benefit Cost Analysis is provided in Appendix - 8.

7. **Methodology and scientific accuracy**

PPs should ensure the professional integrity, including scientific integrity of the discussions and analyses in EIAs. They should identify any methodologies used and should make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the assessment. A PP may place discussion of methodology in an appendix. The CEA is in the process of preparing a document on EIA methodology.

C. PROJECT PROPONENT'S RESPONSE TO COMMENTS

PPs should assess and consider comments made by the public, agencies, and the PAA, and should respond by one or more of the means listed below, stating its response in the final assessment. Possible responses are to :

1. Modify alternatives including the proposed action, and/or incorporate mitigating measures.
2. Develop and evaluate alternatives not previously given serious consideration by the PP.
3. Supplement, improve, or modify its analyses.
4. Make factual corrections.
5. Explain why the comments do not warrant further PP response citing the sources, authorities, or reasons which support the PP's position and if appropriate, indicate those circumstances which would trigger PP's reappraisal or further response.

APPENDIX 3

Forms

- 1). Acknowledgement of Preliminary Information
- 2). Inadequacy of Preliminary Information
- 3). Scoping notice
- 4). TOR notice
 - (4a) For IEE
 - (4b) For EIA
- 5). Receipt of IEER / EIAR
- 6). Notice of adequacy of EIAR
- 7). Notice of inadequacy of EIAR
- 8). Public comment notice
- 9). Public hearing notice
- 10). Notice calling for project proponent to respond to public comments
- 11). Final decision on IEER/EIAR
 - (11a) Granting approval
 - (11b) Refusing approval
- 12). Public notice of final decision

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1) ACKNOWLEDGEMENT OF PRELIMINARY INFORMATION

We acknowledge receipt of preliminary information sent by you on the proposed *(name of the Project*) for which you have sought approval under Part IV C of the National Environmental Act No. 47 of 1980 as amended by Act No. 56 of 1988. This information will be subjected to environmental scoping in order to determine whether what is required is an IEE report or EIA report and the terms of reference therefore. Our determination will be sent to you, in terms of regulation 6 (iii) of the National Environmental (procedure for approval of projects Regulation No. 1 of 1993.

.....

PAA

2) INADEQUACY OF PRELIMINARY INFORMATION

This is to notify you that the information supplied by you on the (name of the Project.....) for which you have sought approval under Part IV C of the National Environmental Act No. 47 of 1980 as amended by Act No. 56 of 1988 is inadequate to be treated as "Preliminary Information" for the purposes of the National Environmental (Procedure for approval of projects), Regulation No. 1 of 1993. In particular you have not yet submitted the following information:-

- 1.
- 2.
- 3.
- 4.

It is in your interest to submit this information at your earliest, since otherwise, we cannot take any steps to process your application for approval.

.....
PAA

3) SCOPING NOTICE

The proposed (name of project.....) initiated by the (project proponent.....) is pending approval by the (PAA.....) under section 23 AA (1) of the National Environmental Act. In terms of Reg. 6(2) of the National Environmental (Procedure for approval of projects) Regulations No. 1 of 1993, you are invited to attend a scoping meeting to be held at the (place.....) on the (date.....) at (time.....) in order to enable the (PAA.....) to determine whether what is required to be prepared by the (Project Proponent.....) is an IEE Report or EIA Report and to determine the issues to be covered in the IEE/EIA Report.

You are welcome to make your contributions orally or in writing. Your special comments on the following issues will be appreciated.

- 1.
- 2.
- 3.
- 4.

A description of the project is annexed herewith. [*Extract from Preliminary Information*]

.....
PAA

D.1-58

4a) IEE TERMS OF REFERENCE NOTICE

Further to environmental scoping held in terms of regulation 6(ii) of the National Environmental (Procedure for approval of projects) Regulations No. 1 of 1993, you are required to prepare an IEE report of the proposed (name of Project.....) the terms of reference for which are attached hereto.

Please submit the IEE report together with (number.....) copies thereof. The document should be translated into Sinhala & Tamil languages and (number) copies thereof should also be furnished.

.....
(PAA)

D.1-59

4b) EIA TERMS OF REFERENCE NOTICE

Further to environmental scoping held in terms of regulation 6(ii) of the National Environmental (Procedure for approval of projects) Regulations No. 1 of 1993, you are required to prepare an EIA Report of the proposed (Name of Project.....) the terms of reference for which are attached hereto.

The EIA must address all matters referred to in the TOR. In the case if an EIAR, fails to address the matters referred to in the TOR it will render the EIAR inadequate and in terms of regulation no 10 of the National Environment (Procedure for approval of projects) Regulations No. 1 of 1993, the (Project Proponent.....) will be required to make necessary amendments and resubmit the report.

Please submit the EIA Report together with (number.....) copies thereof. The document should be translated into Sinhala & Tamil languages and (number) copies thereof should also be furnished.

.....
(PAA)

5) RECEIPT OF EIAR/IEER

We acknowledge receipt of the EIA/IEE study of the proposed (name of the Project) submitted by you in terms of the National Environmental Act.

.....
(PAA)

6) NOTICE OF ADEQUACY OF EIAR

This is to notify (project proponent.....) that the EIA submitted by you on (date.....) is, prima facie, adequate and will be opened for public inspection and comment in terms of the National Environment (Procedure for approval of projects) Regulation No 1 of 1993.

.....
(PAA)

7) NOTICE OF INADEQUACY OF EIA

This is to notify you, in terms of Regulation 10 of the National Environmental (Procedure for Approval of Projects) Regulation No. 1 of 1993, that the EIA submitted by you on (date.....) is, prima facie, inadequate. In particular the EIA has not addressed the following items referred to in the TOR:-

- 1.
- 2.
- 3.
- 4.

Please make necessary amendments to the EIA and re-submit the same together with (number.....) copies thereof and translations in Sinhala & Tamil.

D.1-61

.....
(PAA)

8) PUBLIC COMMENTS NOTICE

NOTIFICATION
UNDER SECTION 23 BB, SUBSECTION (2) OF THE
NATIONAL ENVIRONMENTAL ACT.

(name of the project.....)

The Report on the Environmental Impact Assessment study/Initial Environmental Examination Study of the proposed (name of the project.....) submitted by (project proponent.....) under section 23 BB(1) of the National Environmental Act No. 47 of 1980 as amended by Act No 56 of 1988, will be available for inspection by the public at the following locations between 9.00 a.m. and 4.15 p.m. for a period of 30 days (except Sundays and Public Holidays).

- ◆ ◆
-
- ◆ ◆
-

Any member of the public may within 30 days submit their comments in writing on the above document to the (PAA.....)

.....
PAA

9) PUBLIC HEARING NOTICE

EIA/IEE STUDY OF THE PROPOSED *(name of the project.....)*

Further to the written comments received from the public in terms of section 23 BB (3) of the National Environmental Act on the IEE/EIA study of the proposed *(name of the project.....)* submitted by the *(Project Proponent.....)* under section 23 BB (i) of the National Environmental Act, it has been decided to hold a public hearing under section 23 BB(3) of the National Environmental Act. You are invited to attend the public hearing to be held at the *(place.....)* on the *(date.....)* at *(time.....)* and to make oral or written submissions in support of your written comments.

.....
PAA

CC: *(Project Proponent)* you are invited to attend this hearing. You may bring along the personnel who prepared the EIAR/IEER.

NB Public hearing notice need only be served on those who have made written comment in response to the public inspection notice.

10) NOTICE CALLING FOR PROJECT PROPONENT TO RESPOND TO PUBLIC COMMENTS

Annexed please find written comments received from the public {/ and further submissions / comments / evidence / received during the public hearing held} on the EIA/IEE submitted by you. Please respond to these comments as fully as possible. Please note that we cannot process your application for approval further until we receive your responses.

.....
PAA

♣ Enclosed - copies of written comments / submission / evidence

{ optional }

11a) FINAL DECISION ON EIAR (Granting approval)

(name of the project.....)

This is to inform you that the *(Project Approving Agency.....)* after study of the EIA report of the proposed *(name of the project.....)* and review of the comments received from the public and your responses to such comments, has decided, with the concurrence of the CEA, in terms of regulations 13 of the National Environmental (Procedure for approval of projects). Regulations No. 1 of 1993, to grant approval for the implementation of the above project subject to the following conditions:-

1. The project should be concluded within *(date.....)* unless upon written application within thirty days prior to this date *(Project approving agency.....)* extends this time.
2.
3.
4.

We wish to draw your attention to regulation 17 which states;

17. i *A project proponent shall inform the appropriate Project Approving Agency of -*
- (a) *any alteration to a prescribed project approved under regulations 9(i), and 13(i); and/or*
 - (b) *the abandonment of such approved project*
- ii *The project proponent shall where necessary obtain fresh approval in respect of any such alterations that are intended to be made to such project. The Project Approving Agency shall in consultation with the Authority determine the scope and format of the supplemental report required to be submitted for such alterations.*
- iii *The project proponent shall, where a project is abandoned, restore the project site to a condition as specified by the Project Approving Agency.*

PAA

D.1-63

11b) FINAL DECISION ON EIAR (Refusing approval)

(name of the project.....)

This is to inform you that the *(Project Approving Agency.....)* after study of the EIA report of the proposed *(name of the project.....)* and review of the comments received from the public and your responses to such comments, has decided, with the concurrence of the CEA, in terms of regulations 13 of the National Environmental (Procedure for approval of projects) Regulations No. 1 of 1993, to refuse approval for implementation of the above project for the following reasons -

1.
2.
3.

.....
PAA

11c) FINAL DECISION ON IEER (Granting approval)

(name of the project.....)

This is to inform you that the (Project Approving Agency.....) after study of the IEE report of the proposed (name of the project.....) and review of the comments received from the public and your responses to such comments, has decided, in terms of regulations 9(i) of the National Environmental (Procedure for approval of projects). Regulations No. 1 of 1993, to grant approval for the implementation of the above project subject to the following conditions:-

1. The project should be concluded within (date.....) unless upon written application within thirty days prior to this date (project approving agency.....) extends this time.
2.
3.
4.

We wish to draw your attention to regulation 17 which states;

17. i *A project proponent shall inform the appropriate Project Approving Agency of-*
- (a) *any alteration to a prescribed project approved under regulations 9(i), and 13(i); and/or*
 - (b) *the abandonment of such approved project*
- ii *The project proponent shall where necessary obtain fresh approval in respect of any such alterations that are intended to be made to such project. The Project Approving Agency shall in consultation with the Authority determine the scope and format of the supplemental report required to be submitted for such alterations.*
- iii *The project proponent shall, where a project is abandoned, restore the project site to a condition as specified by the Project Approving Agency.*

PAA

11d) FINAL DECISION ON IEER (Refusing approval)

(name of the project.....)

This is to inform you that the (Project Approving Agency.....) after study of the IEE report of the proposed (name of the project.....) and review of the comments received from the public and your responses to such comments, has decided, with the concurrence of the CEA, in terms of regulations 9(i) of the National Environmental (Procedure for approval of projects). Regulations No. 1 of 1993, to refuse approval for implementation of the above project for the following reasons -

1.
2.
3.

.....
PAA

D.1-64

12 PUBLIC NOTICE OF FINAL DECISION

NATIONAL ENVIRONMENTAL ACT
PUBLIC NOTICE OF FINAL DECISION (EIAR)(PROJECT APPROVING AGENCY.....)*(name of project.....)*

NOTIFICATION UNDER SECTION 23 BB (4)

This is to inform the public that after a study of the EIA/IEE report of the above project, review of the comments received from the public and the project proponents responses to such comments the (PAA.....) has decided, with the concurrence of the CEA, in terms of regulation 13 of the National Environmental (Procedure for approval of projects) Regulation No. 1 of 1993 to grant approval for the implementation of the above project subject to specified terms and conditions.

.....
PAA

D.1-65

APPENDIX 4

PROJECTS AND UNDERTAKINGS PRESCRIBED BY THE HON MINISTER IN CHARGE OF THE SUBJECT OF ENVIRONMENT FOR WHICH APPROVAL SHALL BE NECESSARY UNDER THE PROVISIONS OF PART IV C OF THE NATIONAL ENVIRONMENTAL ACT (AS CONTAINED IN GAZETTES (EXTRA-ORDINARY) NO 772/22 OF 24TH JUNE 1993 AND NO 859/14 OF 23RD FEBRUARY 1995)

SCHEDULE
Part I

PROJECTS AND UNDERTAKINGS IF LOCATED WHOLLY OR PARTLY OUTSIDE THE COASTAL ZONE AS DEFINED BY COAST CONSERVATION ACT NO. 57 OF 1981 (Fig 1)

- 1 All river basin development and irrigation projects excluding minor irrigation works (as defined by Irrigation Ordinance chapter 453)
- 2 Reclamation of Land, wetland area exceeding 4 hectares
- 3 Extraction of timber covering land area exceeding 5 hectares
- 4 Conversion of forests covering an area exceeding 1 hectare into non-forest uses
- 5 Clearing of land areas exceeding 50 hectares
- 6 *Mining and Mineral Extraction*
 - ◆ Inland deep mining and mineral extraction involving a depth exceeding 25 meters
 - ◆ Inland surface mining of cumulative areas exceeding 10 hectares
 - ◆ All off shore mining and mineral extractions.
 - ◆ Mechanized mining and quarrying operations of aggregate, marble, limestone, silica, quartz, and decorative stone within 1 kilometer of any residential or commercial areas.

7 *Transportation systems*

- ◆ Construction of national and provincial highways involving a length exceeding 10 kilometers
- ◆ Construction of railway lines
- ◆ Construction of airports
- ◆ Construction of airstrips
- ◆ Expansion of airports or airstrips that increase capacity by 50 percent or more.

8 *Port and harbour development*

- ◆ Construction of ports
- ◆ Construction of harbours
- ◆ Port expansion involving an annual increase of 50% or more in handling capacity per annum

9 *Power generation and transmission*

- ◆ Construction of hydroelectric power stations exceeding 50 Megawatts
- ◆ Construction of thermal power plants having generation capacity exceeding 25 Megawatts at a single location or capacity addition exceeding 25 Megawatts to existing plants
- ◆ Construction of nuclear power plants
- ◆ All renewable energy based electricity generating stations exceeding 50 Megawatts

10 *Transmission lines*

- ◆ Installation of overhead transmission lines of length exceeding 10 kilometers and voltage above 50 Kilovolts

11 *Housing and building*

- ◆ Construction of dwelling housing units exceeding 1000 units
- ◆ Construction of all commercial buildings as defined by Urban Development Authority established by the Urban Development Authority law, No. 41 of 1978 having built up area exceeding 10,000 square meters.
- ◆ Integrated multi-development activities consisting of housing, industry, commercial infrastructure covering a land area exceeding 10 hectares.

12 *Resettlement*

- ◆ Involuntary resettlement exceeding 100 families other than resettlement effected under emergency situations.

13 *Water supply*

- ◆ All ground water extraction projects of capacity exceeding 1/2 million cubic meters per day
- ◆ Construction of water treatment plants of capacity exceeding 1/2 million cubic meters

14 *Pipelines*

- ◆ Laying of gas and liquid (excluding water) transfer pipelines of length exceeding 1 kilometer

15 *Hotels*

- ◆ Construction of Hotels or holiday resorts or projects which provide recreational facilities exceeding 99 rooms or 40 Hectares, as the case may be.

16 *Fisheries*

- ◆ Aquaculture development projects of extent exceeding 4 hectares
- ◆ Construction of fisheries harbours
- ◆ Fisheries harbour expansion projects involving an increase of 50% or more in fish handling capacity per annum

17 *All tunnelling projects*18. *Disposal of Waste*

- ◆ Construction of any solid waste disposal facility having a capacity exceeding 100 tons per day.
- ◆ Construction of waste treatment plants treating toxic or hazardous waste.

19. *Development of all Industrial Estates and Parks exceeding an area of 10 hectares*

20 *Iron and Steel Industries*

- ◆ Manufacture of iron and steel products of production capacity exceeding 100 tons per day using iron ore as raw material
- ◆ Manufacture of iron and steel products of production capacity exceeding 100 tons per day using scrap iron as raw material

21 *Non-Ferrous Basic Metal Industries*

- ◆ Smelting of aluminium or copper or lead of production capacity exceeding 25 tons per day

22 *Basic Industrial Chemicals*

- ◆ Formulation of toxic chemicals of production capacity exceeding 50 tons per day
- ◆ Manufacture of toxic chemicals of production capacity exceeding 25 tons per day

23 *Pesticides and Fertilizers*

- ◆ Formulation of pesticides of combined production capacity exceeding 50 tons per day
- ◆ Manufacture of pesticides of combined production capacity exceeding 25 tons per day

24 *Petroleum and Petrochemical*

- ◆ Petroleum refineries producing gasoline, fuel oils, illuminating oils, lubricating oils and grease, aviation and marine fuel and liquified petroleum gas from crude petroleum
- ◆ Manufacture of petro-chemicals of combined production capacity exceeding 100 tons per day from raw materials obtained from production processes of oil refinery or natural gas separation.

25 *Tyre and Tube Industries*

- ◆ Manufacture of tyre and tubes of combined production capacity exceeding 100 tons per day from natural or synthetic rubber

26 *Sugar factories*

- ◆ Manufacture of refined sugar of combined production capacity exceeding 50 tons per day

27 *Cement and Lime*

- ◆ Manufacture of Cement
- ◆ Manufacture of lime employing kiln capacity exceeding 50 tons per day

28 *Paper and Pulp*

- ◆ Manufacture of paper or pulp of combined production capacity exceeding 50 tons per day

29 *Spinning, Weaving and Finishing of Textiles*

- ◆ Integrated cotton or synthetic textile mills employing spinning, weaving, dyeing and printing operations together, of combined production capacity exceeding 50 tons per day

30 *Tanneries and Leather Finishing*

- ◆ Chrome tanneries of combined production capacity exceeding 25 tons per day
- ◆ Vegetable (bark) of combined production capacity exceeding 50 tons per day

Provided however, where the projects and undertaking set out in items 20 to 30 are located within Industrial Estates and parks as described at (19) above, the approval shall not be necessary under the provisions of Part IVC of the Act.

- 31 Industries which involve the manufacture, storage or use of Radio Active Materials as defined in the Atomic Energy Authority Act No. 19 of 1969 or Explosives as defined in the Explosives Act, No. 21 of 1956, excluding for national security reasons.

Part II

(32) All projects and undertaking listed in Part I irrespective of their magnitudes and irrespective of whether they are located in the coastal zone or not, if located wholly or partly within the areas specified in part 111 of the Schedule.

The following industries if located wholly or partly within the areas specified in Part 111 of the Schedule.

- (33) Iron and Steel
- (34) Non-Ferrous Basic Metal
- (35) Basic Industrial Chemicals
- (36) Pesticides and Fertilizers
- (37) Synthetic Resins, Plastic materials and Man-made Fibres.
- (38) Other Chemical Products.
- (39) Petroleum and Petro-chemical Products
- (40) Tyres and Tubes
- (41) Manufacturing and Refining of Sugar
- (42) Alcoholic Spirits
- (43) Malt Liquors and Malt
- (44) Cement and Lime
- (45) Non-metallic Mineral Products
- (46) Paper, Pulp and Paperboard
- (47) Spinning, Weaving and Finishing of Textile
- (48) Tanneries and Leather Finishing
- (49) Shipbuilding and Repairs
- (50) Railroad Equipment
- (51) Motor Vehicles
- (52) Air Craft

D.1-68

PART 111

1. Within 100 m from the boundaries of or within any area declared under the National Heritage Wilderness Act No 3 of 1988; the Forest Ordinance (Chapter 451);

whether or not such areas are wholly or partly within the Coastal Zone as defined in the Coast Conservation Act, No. 57 of 1981.

2. Within the following areas whether or not the areas are wholly or partly within the Coastal Zone:
 - ◆ any erodable area declared under the Soil Conservation Act (Chapter 450)
 - ◆ any Flood Area declared under the Flood Protection Ordinance (Chapter 449) and any flood protection area declared under the Sri Lanka Land Reclamation and Development Corporation Act, 15 of 1968 as amended by Act, No.52 of 1982.
 - ◆ 60 meters from the bank of a public stream as defined in the Crown Lands Ordinance (Chapter 454) and having a width of more than 25 meters at any point of its course.
 - ◆ any reservation beyond the full supply level of a reservoir.
 - ◆ any archaeological reserve, ancient or protected monument as defined or declared under the Antiquities Ordinance (Chapter 188).
 - ◆ any area declared under the Botanic Gardens Ordinance (Chapter 446)
 - ◆ within 100 meters from the boundaries of, or within, any area declared as a Sanctuary under the Fauna and Flora Protection Ordinance (Chapter 469).
 - ◆ within 100 meters from the high flood level contour of, or within, a public lake as defined in the Crown Lands Ordinance (Chapter 454) including those declared under section 71 of the said Ordinance.

In these regulations unless the context otherwise requires;

"hazardous waste" means any waste which has toxic, corrosive, flammable, reactive, radio active or infectious characteristics.

"reservoir" means an expanse of water resulting from man made constructions across a river or a stream to store or regulate water. Its "environs" will include that area extending up to a distance of 100 meters from full supply level of the reservoir inclusive of all islands falling within the reservoir.

APPENDIX 5

NATIONAL ENVIRONMENTAL (PROCEDURE FOR APPROVAL OF PROJECTS) REGULATIONS, NO.1 OF 1993 AS CONTAINED IN GAZETTE EXTRA-ORDINARY NO 772/22 OF 24TH JUNE 1993

1. These Regulations may be cited as the National Environmental (Procedure for approval of projects) Regulations, No.1 of 1993.
2. (i) A project proponent shall not perform the functions and duties of a project Approving Agency. In the event of a Project Approving Agency becoming a project proponent, the Authority shall designate an appropriate Project Approving Agency.
- (ii) The Authority shall determine the appropriate Project Approving Agency in case where more than one Project Approving Agency is involved.
3. In respect of any prescribed project for which an Environmental Impact Assessment Report is required the Project Approving Agency shall grant its approval only with the concurrence of the Authority.
4. Any devolution of the functions of a Project Approving Agency to a Provincial Council, relating to the approval of projects shall be done only with the written concurrence of the Minister.
5. A project proponent of any proposed prescribed project shall as early as possible submit to the Project Approving Agency preliminary information on the project requested by the appropriate Project Approving Agency.
6. (i) The project Approving Agency shall acknowledge in writing receipt of such preliminary information within six days (Fig.2).
- (ii) The Project Approving Agency shall in consultation with the Authority subject such preliminary information to environmental scoping, in order to set the Terms of Reference for the Initial Environmental Examination Report or Environmental Impact Assessment Report, as the case may be, and in doing so the Project Approving Agency may take into consideration the views of state agencies and the public.

D.1-69

- (iii) The Project Approving Agency shall convey in writing to the project proponent the Terms of Reference referred to in paragraph (ii) above within fourteen days in the case of an Initial Environmental Examination Report and thirty days in the case of an Environmental Impact Assessment Report from the date of acknowledging receipt of the preliminary information.
- (iv) Where, if on environmental scoping the Project Approving Agency considers that the preliminary information submitted by the project proponent as required in regulation 5 above, is adequate to be an Initial Environmental Examination Report, the Project Approving Agency shall proceed as specified hereinafter.
7. (i) Every project proponent shall submit to the Project Approving Agency such number of copies of the Initial Environmental Examination Report as required by the Project Approving Agency.
- (ii) Upon receipt of an Initial Environmental Examination Report the Project Approving Agency shall submit a copy thereof to the Authority, and by prompt notice published in the Gazette and in one national newspaper published daily in the Sinhala, Tamil and English languages, invite the public to make written comments, if any, thereon to the Project Approving Agency, within thirty days from the date of first appearance of the notice, either in the Gazette or in the newspaper.
- (iii) The Notice referred to in paragraph (ii) above shall specify the times and places at which the report shall be made available for public inspection.
- (iv) The Project Approving Agency shall make available copies of the report to any person interested to enable him to make copies thereof.
8. (i) It shall be the duty of the Project Approving Agency, upon completion of the period of public inspection, to forward to the project proponent the comments received from the public, for review and response, within six days from the date of completion of the period of public inspection.
- (ii) The project proponent shall in writing respond to such comments to the Project Approving Agency.

9. Upon receipt of such responses referred to in regulation 8 (ii) above, the Project Approving Agency shall within a period of six days either .
- (i) grant approval for the implementation of the proposed project subject to specified conditions; or
 - (ii) refuse approval for the implementation of the proposed project with reasons for doing so.
10. Upon receipt of an Environmental Impact Assessment Report the Project Approving Agency shall, within fourteen days, determine whether the matters referred to by the Terms of Reference as set out in regulation 6 (11) above are addressed, and if the Report is determined to be inadequate the Project Approving Agency shall require the project proponent to make necessary amendments and re-submit the report, together with the required number of copies.
- 11.(i) Upon receipt of the Report, as specified in regulation 10 above, the Project Approving Agency shall submit a copy thereof to the Authority and by prompt notice published in the Gazette and in one national newspaper published daily in the Sinhala, Tamil and English languages invite the public to make written comments, if any, thereon to the Project Approving Agency within thirty days from the date of the first appearance of the notice, either in the Gazette or in the newspaper.
- (ii) The notification shall specify the time and places at which the Report shall be made available for public inspection.
 - (iii) The project Approving Agency shall make available copies of the Report to any person interested to enable him to make copies thereof.
12. It shall be the duty of a Project Approving Agency, upon completion of the period of public inspection or public hearing, if held, to forward to the project proponent comments received for review and response, within six days. The Project Proponent shall respond to such comments in writing to the Project Approving Agency.
13. Upon receipt of such responses as referred to in regulation 12 above, the Project Approving Agency shall with the concurrence of the Authority, within thirty days either -

D.1-70

- (i) grant approval for the implementation of the proposed project subject to specified conditions; or
 - (ii) refuse approval for the implementation of the proposed project, with reasons for doing so.
14. It shall be the duty of all Project Approving Agencies to forward to the Authority a report which contains a plan to monitor the implementation of every approved project, within thirty days from granting of approval under regulations 9 (i) and 13 (i) by such agencies.
15. The Project Approving Agency shall publish in the Gazette and in one national newspaper published daily in the Sinhala, Tamil and English languages the approval of any project as determined under regulations 9 (i) and 13 (i) hereto.
- 16.(i) The Project Approving Agency shall specify a period within which the approved project shall be completed.
- (ii) A project proponent may, within thirty days prior to the expiry of such period, make an application in writing to the Project Approving Agency for an extension of time for the completion of the proposed prescribed project.
- 17.(i) A project proponent shall inform the appropriate Project Approving Agency of
- (a) any alteration to a prescribed project approved under regulations 9 (i), and 13(i); and/or
 - (b) the abandonment of such approved project
- (ii) The project proponent shall where necessary obtain fresh approval in respect of any such alterations that are intended to be made to such project. The Project Approving Agency shall in consultation with the Authority determine the scope and format of the supplemental report required to be submitted for such alterations.
 - (iii) The project proponent shall, where a project is abandoned, restore the project site to a condition as specified by the Project Approving Agency.

18. The Project Approving Agency shall communicate to the Project Proponent the administrative charges to be levied by the Project Approving Agency for the purposes of the approval of projects. The Project Approving Agency shall follow the procedure set out in guidelines prepared by the Authority.

19. In these regulations

"Authority" means the Central Environmental Authority;

"Project Proponent" means any Government Department, Corporation, Statutory Board, Local Authority, Company, Firm or Individual who submits any prescribed project for approval;

"Project" means any undertaking, scheme or plan where commitment of resources, time and funds are envisaged and which comes into existence at the stage where the project proponent has a goal and is actively preparing to make a decision in achieving that goal.

"Preliminary information" shall include a description of the nature, scope and location of the proposed project accompanied by location maps and any other details as may be requested for by the Project Approving Agency;

"environmental scoping" means determining the range and scope of proposed actions, alternatives, and impacts to be discussed in an Initial Environmental Examination Report or Environmental Impact Assessment Report;

"Report" means an Initial Environmental Examination Report or an Environmental Impact Assessment Report as the case may be; and "days" means any day other than a public holiday as defined by the Holidays Act, No. 29 of 1971.

D.1-71

APPENDIX 6

PROJECT APPROVING AGENCIES SET OUT IN THE GAZETTE EXTRA-ORDINARY NO 859/14 OF 23RD FEBRUARY 1995.

1) The respective Ministries to which the following subjects are assigned:-

- (a) National Planning
- (b) Irrigation
- (c) Energy
- (d) Agriculture
- (e) Lands
- (f) Forests
- (g) Industries
- (h) Housing
- (i) Construction
- (j) Transport
- (k) Highways
- (l) Fisheries
- (m) Aquatic Resources
- (n) Plantation Industries.

- 2) The Department of Coast Conservation
- 3) The Department of Wildlife Conservation
- 4) The Urban Development Authority established by the Urban Development Law, No. 41 of 1978.
- 5) The Central Environmental Authority established by the National Environmental Act, No. 47 of 1980.
- 6) The Geological Survey and Mines Bureau established by the Mines and Minerals Act, No. 33 of 1992.
- 7) The Ceylon Tourist Board established by the Ceylon Tourist Board Act, No. 10 of 1966.
- 8) The Mahaweli Authority of Sri Lanka established by the Mahaweli Authority of Sri Lanka Act, No. 23 of 1979.
- 9) The Board of Investment of Sri Lanka established by the Greater Colombo Economic Commission Law, No. 4 of 1978 as amended inter alia by Act, No. 49 of 1992

The Order made under section 23Y and published in Gazette Extraordinary 772/22 of 24th June, 1993 is hereby rescinded.

THE EIA PUBLICATIONS OF CEA

1. Guidance for the Implementing the Environmental Impact Assessment (EIA) Process No. 1 A General Guide for Project Approving Agency (PAA) , 1993.
2. Guidance for the Implementing the EIA Process No. 2 - A General Guide for conducting Environmental Scoping , 1995.
3. EIA Process - Status Report - 1996
4. Environmental Guideline for Road and Rail Development in Sri Lanka, 1997.
5. Environmental Guideline for Agricultural Sector Projects - 1997
6. Environmental Guideline for Tourism Development in Sri Lanka - 1997
7. Environmental Guideline for Fisheries and Aquatic Resources Sector Projects **,
8. Environmental Guideline for Irrigation Sector Projects **
9. Environmental Guideline for Energy Sector Projects **
10. Environmental Guideline for Mining and Mineral Sector Projects **
11. The Gazette Extraordinary No 772/22 of Thursday, June 24, 1993.
12. The Gazette Extraordinary No 859/14, of Thursday February 23, 1995.
13. The EIA Experience in Sri Lanka,

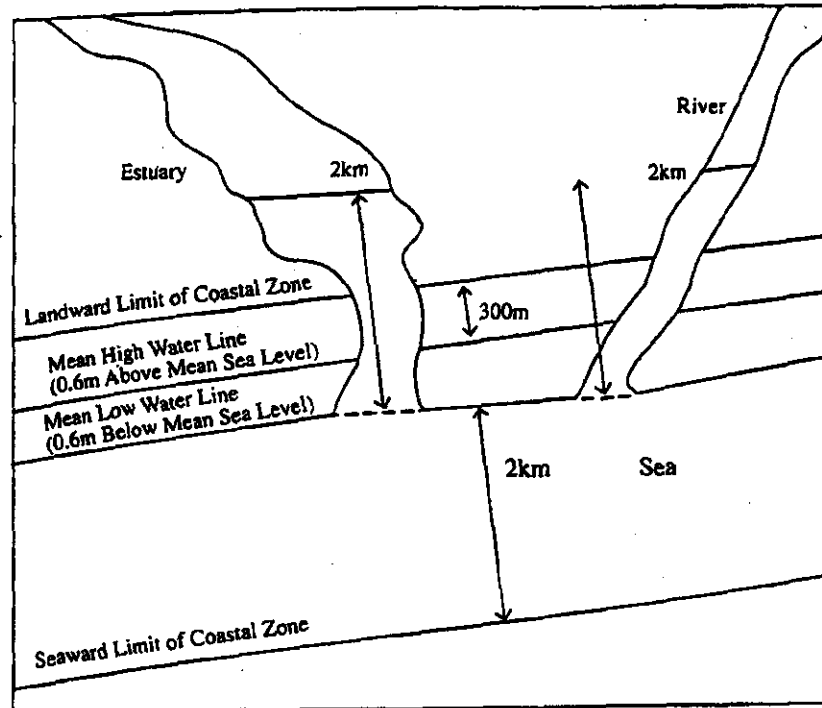
(** - Under preparation)

D.1-72

GUIDELINE TO INCORPORATE ENV. ECONOMICS INTO TERMS
OF REFERENCE FOR EIA

1. Use the financial analysis as a basis to conduct the Extended Benefit Cost Analysis (EBCA).
2. Calculate the cost of suggested mitigation measures as of the EIAR.
3. Value all the significant impacts considering the incremental effects over time. This may include the residual impacts after adopting mitigatory measures.
4. Incorporate values identified in 2 and 3 above to the financial analysis.
5. Use appropriate shadow prices and discount rate (follow NPD guidelines) to carry out the economic analysis of the project.
6. Based on the above analysis show the Economic Internal Rate of Return (EIARR). Economic Net Present Value (ENPV). On request of the TEC, the project proponent should be able to provide the spread-sheet of the above analysis.
7. Conduct a sensitivity analysis on the critical parameters.
8. Clearly state all the assumptions made in the analysis.

Figure 1.
The Sri Lanka Coastal Zone

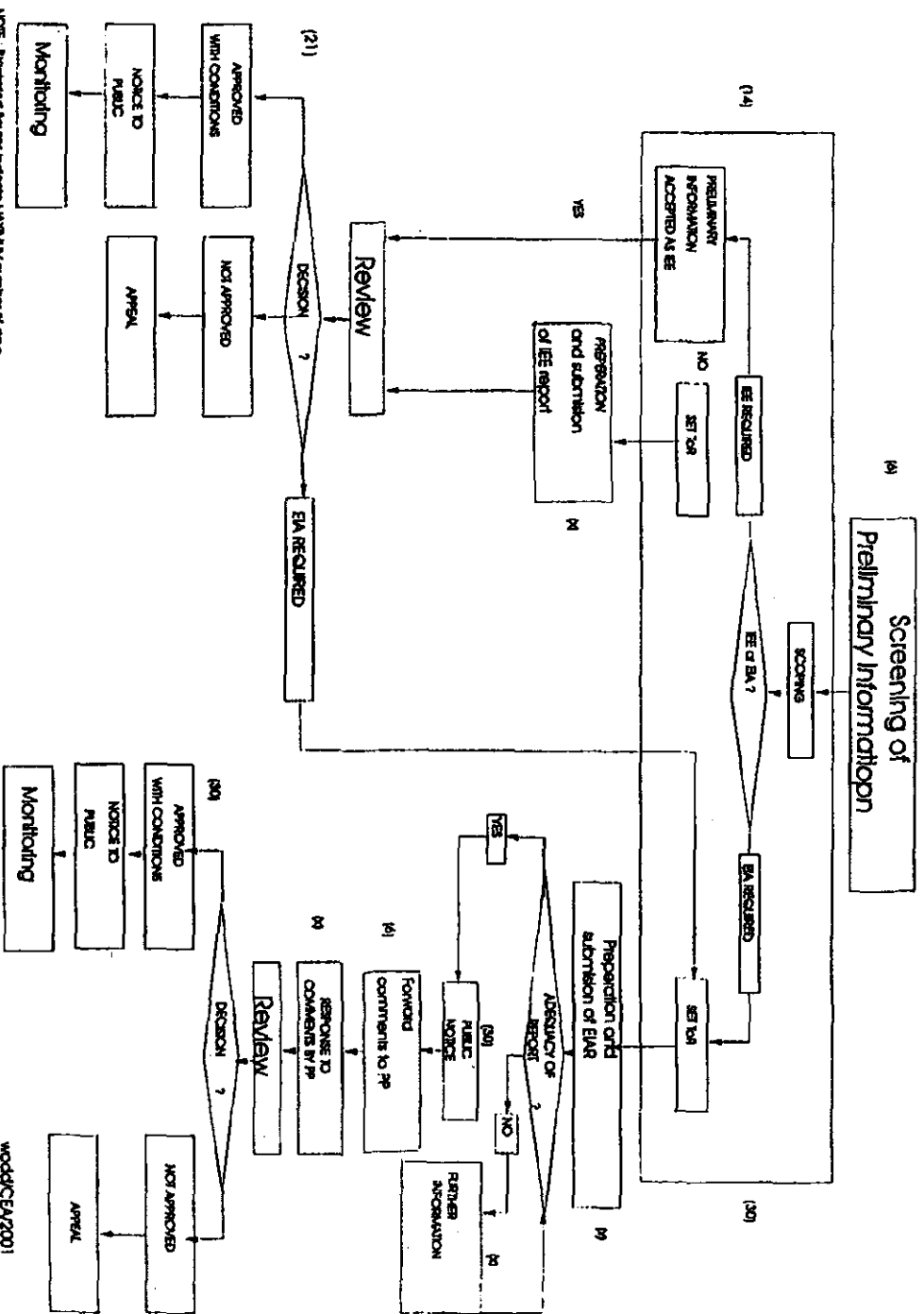


The "Coastal Zone" is defined in the Coast Conservation Act as . . .

"That area lying within a limit of three hundred meters landwards of the Mean High Water Line and a limit of two kilometers seawards of the Mean Low Water Line and in the case of rivers, streams, lagoons, or any other body of water connected to the sea either permanently or periodically, the landward boundary shall extend to a limit of two kilometers measured perpendicular to the straight base line drawn between the natural entrance points¹ thereof and shall include waters of such rivers, streams and lagoons or any other body of water so connected to the sea."

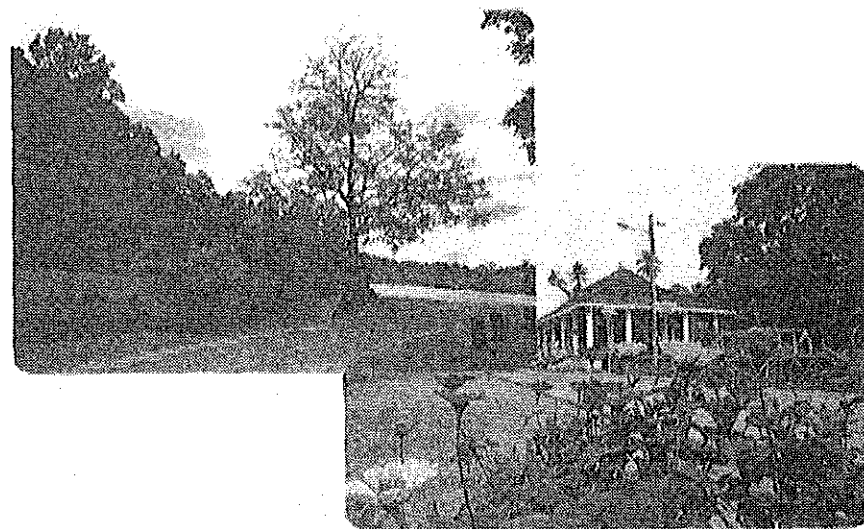
¹By definition, the natural entrance points are defined with respect to the mean low water line.

ENVIRONMENTAL IMPACT ASSESSMENT PROCEDURE





ඝන අපද්‍රව්‍ය කළමනාකරණය සඳහා ජාතික උපාය මාර්ගය



පාරිසරික හා ස්වභාවික සම්පත් අමාත්‍යාංශය
සටහන් ක්‍රියාත්මක වන ප්‍රථම පාරිසරික ක්‍රියාත්මක ව්‍යාපෘතියේ
මූල්‍ය ආධාර සටහන් මුද්‍රණය කරන ලදී.

පාරිසරික හා ස්වභාවික සම්පත් අමාත්‍යාංශය
"සම්පත් පාඨ" 82, රජමල්වත්ත පාර, බත්තරමුල්ල ශ්‍රී ලංකාව

දෙවන මුද්‍රණය 2002 මැයි

D.1-75

සහ අපද්‍රව්‍ය කළමනාකරණය සඳහා
ජාතික උපාය මාර්ගය



වන සම්පත් හා පරිසර අමාත්‍යාංශය
82, "සම්පත් සාය", රජමල්වත්ත පාර, බත්තරමුල්ල

වන සම්පත් හා පරිසර අමාත්‍ය ගරු මහින්ද විජේසේකර මැතිතුමාගේ පණිවුඩය

නිසි කළමනාකරණයක් හා ඒ සම්බන්ධිත සැලසුම් නොමැති වීම නිසා සහ අපද්‍රව්‍ය ශ්‍රී ලංකාවේ උග්‍ර වෙමින් පවතින ගැටළුවක් බවට පත්ව තිබේ. අද පවතින කුණුකසල බැහැරලීමේ ඉම හා බැඳි පවතින පාරිසරික සමාජීය හා ආර්ථික ගැටළු අවම කර ගැනීම සඳහා සහ අපද්‍රව්‍ය කළමනාකරණය පිළිබඳව ජාතික උපාය මාර්ගයක් සකස් කර ක්‍රියාත්මක කිරීම කාලීන අවශ්‍යතාවයක් වී තිබේ.

මෙම කාර්යය සඳුරා ගැනීම සඳහා වන සම්පත් හා පරිසර අමාත්‍යාංශය අදාළ අතිකුත් රාජ්‍ය ආයතන වල සහභාගිත්වයෙන් සහ අපද්‍රව්‍ය කළමනාකරණය සඳහා වන, ජාතික උපාය මාර්ගය පිළියෙල කරන ලදී. මෙම ජාතික උපාය මාර්ගයන්හි මූලික පදනම වී ඇත්තේ 'අපද්‍රව්‍ය ජනනය වූ තැන සිට බැහැරලීමේ ක්‍රියාවලියේ අවසානය දක්වා අපද්‍රව්‍ය කළමනාකරණය කළ යුතුය' යන පුළුල් ප්‍රතිපත්තියයි. අපද්‍රව්‍ය ජනනය වීම අවම කිරීම, නැවත භාවිතා කිරීම, ප්‍රතිචක්‍රීයකරණය ආදිය නැවත භාවිත කිරීම හා ඉන් ඉක්බිතිව ඉතිරිවන අපද්‍රව්‍ය පරිසරයට හිතකර වන සේ අවසාන බැහැරලීම යන සිව් වැදෑරුම් ක්‍රියාවලීන් යොත් මෙම උපාය මාර්ග ප්‍රධාන වශයෙන් සමන්විතය. මෙම ජාතික උපාය මාර්ග ක්‍රියාත්මක කිරීම සඳහා අමාත්‍ය මණ්ඩල අනුමැතියද ලැබී ඇත.

මෙම ජාතික උපාය මාර්ග ක්‍රියාත්මක කිරීමේදී මධ්‍යම රජය, පළාත් සභා, පළාත් පාලන ආයතන, පෞද්ගලික ආයතන හා රාජ්‍ය නොවන ආයතන වල මෙන්ම පොදු ජනතාව සතු කාර්යයන් පිළිබඳව සැහැදිලිව මෙම උපාය මාර්ගයෙහි සඳහන් කර ඇත. මෙම උපාය මාර්ග සකස් කිරීමේදී මාගේ අමාත්‍යාංශයේ හා අනෙකුත් අදාළ ආයතනවල නිලධාරීන්ගේ උද්යෝගය හා කැපවීම පිළිබඳව මාගේ කෘතඥතාවය පළ කිරීමට කැමැත්තෙමි.

අපද්‍රව්‍ය ප්‍රශ්නයට නිරසාර විසඳුමක් ලබා දී පිරිසිදු පරිසරයක ජීවත්වීමට ජනතාවට ඇති අයිතිය තහවුරු කිරීම සඳහා සැකසූ මෙම ජාතික උපාය මාර්ගයේ මග පෙන්වීම යටතේ ඉදිරිපත් කරනු ලබන ක්‍රියාත්මක සැලසුම් සාර්ථක කර ගැනීම සඳහා සියලු දෙනාගේම සහයෝගය සහ සහභාගිත්වය උදක්ම අපේක්ෂා කරමි.

මහින්ද විජේසේකර

වන සම්පත් හා පරිසර අමාත්‍ය.

වන සම්පත් හා පරිසර නියෝජ්‍ය අමාත්‍ය, ගරු මුහේදාස ප්‍රේමචන්ද්‍ර මැතිතුමාගේ පණිවුඩය

අප අමාත්‍යාංශය අතිත අදාළ ආයතනවල ද සහභාගිත්වය ඇතිව පිළියෙල කරන ලද සහ අපද්‍රව්‍ය කළමනාකරණය සඳහා වන ජාතික උපාය මාර්ගය එළිදැක්වන මෙම අවස්ථාවේ දී එම කාර්යයට සහභාගිවීමට ලැබීම පිළිබඳව ඉතාමත් සතුටුවෙමි.

ශ්‍රී ලංකාවේ උග්‍රවෙමින් පවතින ගැටළුවක් බවට පත්ව ඇති සහ අපද්‍රව්‍ය බැහැරලීම පිළිබඳව ජාතික උපාය මාර්ග සකස් කර ඉදිරිපත් කිරීමට හැකිවීම සැමගේ සතුටට හේතුවන බව නොඅනුමානය.

අනුමත පරිදි අපද්‍රව්‍ය එකතුකිරීම, නිසි සැලැස්මක් නොමැතිව ගං ඉවුරු, තෙත්බිම් ආදී පාරිසරික සංවේදී ස්ථානවල අපද්‍රව්‍ය බැහැරලීම වැනි ක්‍රියාවන් මෙන්ම අපගේ වර්තමාන පිරිත් වරිත් හා ගනි පැවතුම් ද මෙම ප්‍රශ්නය උග්‍රවීමට හේතුවී ඇත. එසේම ප්‍රතිවක්‍රීකරණය වැනි අපද්‍රව්‍ය කළමනාකරණයේ වැදගත් අංග කෙරෙහි වර්තමානයේ අප දක්වන අඩු සැලකිල්ල මෙම ප්‍රශ්නය උග්‍රවීමට තවදුරටත් දායක වේ.

මෙම ජාතික උපාය මාර්ග හා ක්‍රියාත්මක සැලැස්ම, ජාතික, පළාත් හා ප්‍රාදේශීය මට්ටමින් ක්‍රියාත්මක කිරීම සඳහා අපද්‍රව්‍ය ජනනයවීම අඩුකිරීම, නැවත භාවිතා කිරීම, ප්‍රතිවක්‍රීකරණය හා පරිසරයට හිතකර ලෙස අවසාන බැහැරලීම යන සෑම කරුණක් පිළිබඳවම අපගේ විශේෂ අවධානය යොමුකළ යුතුය. මේ සඳහා, ජාතික, පළාත් හා ප්‍රාදේශීය මට්ටමින් ඒ ඒ ප්‍රදේශවලට අදාළව අපද්‍රව්‍ය කළමනාකරණය සම්බන්ධ ඒකාබද්ධ සැලැස්ම පිළියෙල කර ක්‍රියාත්මක කිරීම කාලීන අවශ්‍යතාවයකි.

මෙලෙස, අපද්‍රව්‍ය කළමනාකරණ සැලැස්ම ක්‍රියාත්මක කිරීම තුළින් අපගේ මව්බිම තුළ නිරසාර ලෙස පිරිසිදු පරිසරයක් ස්ථාපිත කිරීමේ ජාතික කර්තව්‍යයට උරදීමට ලක් පුරවැසියන් වන අප සෑම හට ශක්තිය හා වෛරයය ලැබේවායී ප්‍රාර්ථනා කරමි.

මුහේදාස ප්‍රේමචන්ද්‍ර

වන සම්පත් හා පරිසර නියෝජ්‍ය අමාත්‍ය.

වන සම්පත් හා පරිසර අමාත්‍යාංශයේ ලේකම්තුමාගේ පණිවුඩය

සහ අපද්‍රව්‍ය කළමනාකරණය සම්බන්ධයෙන් වන ජාතික උපාය මාර්ග සකස් කර ප්‍රකාශයට පමුණුවන මෙම අවස්ථාවේදී මෙම පණිවිඩය තිබුණේ කිරීමට ලැබීම ගැන මම සතුටු වෙමි. අපගේ අමාත්‍යාංශය මගින් අදාළ සියළු ආයතන වල සහභාගිත්වය ඇතිව අවුරුදු තුනක් පමණ කාලයක් මුළුල්ලේ කරන ලද සාකච්ඡා, නියමු ව්‍යාපෘති අත්දැකීම් ආශ්‍රිතව මෙවැනි ජාතික උපාය මාර්ග සකස් කර ඉදිරිපත් කරන්නට හැකි වීම අපගේ දිර්ඝකාලීන අවශ්‍යතාවයක් මල්පල ගැන්වීමකි.

මෙම ජාතික උපාය මාර්ග හා ක්‍රියාත්මක යැලැස්ම සකස් කිරීමේ දී විශේෂයෙන්ම පළාත් සභා හා පළාත් පාලන අමාත්‍යාංශය, පළාත් සභා සහ අතිත අදාළ ආයතන වලින් ලැබුණු දායකත්වය හා සහයෝගය ඉතා වැදගත්ය. එසේම අපද්‍රව්‍ය කළමනාකරණය සම්බන්ධයෙන් වන උපාය මාර්ග ක්‍රියාවට නැංවීමේදී පළාත් සභා හා පළාත් පාලන ආයතන සතු භාර්ය භාරයද ඉතාමත්ම වැදගත් වන අතර, අනාගතයේදී එම භාර්යභාරය අනෙකුත් අදාළ පාර්ශවයන්ගේ සහාය ඇතිව සාර්ථකව ක්‍රියාත්මක කිරීමට හැකිවේ යැයි මම උදක්ම බලාපොරොත්තු වෙමි.

ඒ අනුව තම ප්‍රදේශවලට උචිත වන සේ ජනනය වන අපද්‍රව්‍ය ප්‍රමාණයට හා වර්ගයට අනුව ඒකාබද්ධ අපද්‍රව්‍ය කළමනාකරණ යැලැස්ම පිළියෙල කොට ක්‍රියාත්මක කිරීම පළාත් පාලන ආයතන සතු භාරදුර භාර්යභාරයක් වේ. මේ සඳහා උපාය මාර්ගවල සඳහන් වී ඇති පරිදි මධ්‍යම රජය, පළාත් සභා, පළාත් පාලන ආයතන, පෞද්ගලික ආයතන, රාජ්‍ය නොවන ආයතන සහ ජනතාවගේ සහාය ලබාගෙන කටයුතු කරනු ඇතැයි බලාපොරොත්තු වන අතර, මෙම ජාතික කර්තව්‍යය සාර්ථක කර ගැනීම සඳහා සෑමගේ දායකත්වය සහ සහයෝගය ගෞරවයෙන් අපේක්ෂා කරමි.

කේ.ඒ.එස්.ගුණසේකර
ලේකම්, වන සම්පත් හා පරිසර අමාත්‍යාංශය.

සහ අපද්‍රව්‍ය කළමනාකරණය සඳහා ජාතික උපාය මාර්ගය

පවුක

1. හැඳින්වීම
2. සහ අපද්‍රව්‍ය යනු ආමන්ද?
3. සෞඛ්‍යමය සහ පාරිසරික වශයෙන් පැහ නගිත කරුණු
4. සහ අපද්‍රව්‍ය කළමනාකරණය
5. සහ අපද්‍රව්‍ය කළමනාකරණය සඳහා ජාතික උපාය මාර්ගය
 - අපද්‍රව්‍ය ජනනය වීම වැලැක්වීම/අඩු කිරීම
 - අපද්‍රව්‍ය නැවත භාවිතා කිරීම
 - අපද්‍රව්‍ය ප්‍රතිචක්‍රීකරණය
 - කොමිසෝධි සියදවීම
 - විදුරු අපද්‍රව්‍ය ප්‍රතිචක්‍රීකරණය
 - තඹදාසි අපද්‍රව්‍ය ප්‍රතිචක්‍රීකරණය
 - අවසාන බැහැරලීම
 - සාධිපාරිසරික කසල රඳවනයක් මගින් බැහැරලීම
 - කසල ගපමිකරණය
 - බලශක්තී ජනනය
 - ජීව වායුව ප්‍රයෝජනයට ගැනීම.
6. ජනනය වන ස්ථානයේදී කසල වෙන් කිරීම
7. ඒකාබද්ධ සහ අපද්‍රව්‍ය කළමනාකරණ උපාය මාර්ගය
8. නෛතික ව්‍යුහය
 - පළාත් පාලන ආයතන යටතේ ඇති විධිවිධාන
 - ජාතික පාරිසරික පනත යටතේ පනවා ඇති විධිවිධාන
 - පාරිසරික බලපෑම් ඇගයීම
9. දිරිගැන්වීම් සහ නීති ක්‍රියාත්මක කිරීම
10. පර්යේෂණ සහ සංවර්ධන කටයුතු

- 11. පොදුගලිත අංශයෙහි සහභාගිත්වය
- 12. ජනතා සහභාගිත්වය
- 13. රජයේ කාර්යභාරය
- 14. සහ අපද්‍රව්‍ය කළමනාකරණය සඳහා විවිධ අංශවල සහභාගිත්වය සහ අංශ අතර ක්‍රියාකාරීත්වයේ අවශ්‍යතාවය
- 15. සහ අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය සඳහා වූ ජාතික උපාය මාර්ග ක්‍රියාත්මක කිරීම සඳහා වන ඇයතනික යන්ත්‍රණය
- 16. අධ්‍යාපනය සහ දැනුවත් කිරීම

සහ අපද්‍රව්‍ය කළමනාකරණය සඳහා ජාතික උපායමාර්ගය

1. හැඳින්වීම

බිසි කළමනාකරණයක් නොමැතිකම නිසා සහ අපද්‍රව්‍ය ශ්‍රී ලංකාවේ උග්‍රවේගීන් පවතින ගැටළුවක් බවට පත්වී තිබේ. අද පවතින කැලීහසල බැහැරලීමේ ක්‍රම හා බැඳී පවතින පාරිසරික, සමාජය හා ආර්ථික ගැටළු අධිම කිරීම සඳහා, සහ අපද්‍රව්‍ය කළමනාකරණය පිළිබඳ ජාතික උපායමාර්ගයක් සකස් කර ක්‍රියාත්මක කිරීම අත්‍යවශ්‍ය කර්තව්‍යයකි. අතීතයේදී සහ අපද්‍රව්‍ය අවසාන බැහැරලීම සඳහා වැඩි අවධානයක් යොමු කරන ලද අතර අපද්‍රව්‍ය කළමනාකරණය කෙරෙහි බිසි අවධානයක් දක්වා නොමැත. යෝජිත උපායමාර්ගය, ජනතයේ සිට අවසාන බැහැරලීම දක්වාම පිළිගෙනරන සහ අපද්‍රව්‍ය කළමනාකරණය කිරීමේ ප්‍රතිපත්තිය මත පදනම් වී ඇත.

සහ අපද්‍රව්‍ය පිළිබඳව මැනදී ලබාගන්නා ලද දත්ත අධ්‍යයනයේදී සෙහි යන්නේ සහ අපද්‍රව්‍ය හා සම්බන්ධිත ප්‍රශ්නවලට වඩාත්ම හේතු වී ඇත්තේ අපද්‍රව්‍ය ජාතිකවීමේ වේගයම නොව දැනට පවතින අවිධිමත් ලෙස අපද්‍රව්‍ය බැහැරලීමේ ක්‍රියාපිළිවෙල බවයි. මෙයේ නමුත් ජනගහන වර්ධනය, භාණ්ඩයන් සංවර්ධනය හා ජනතාවගේ ජීවන රටා වෙනස්වීමත් සමගම අපද්‍රව්‍ය ප්‍රමාණයද සීඝ්‍රයෙන් වැඩිවේ. එබැවින් අපද්‍රව්‍ය ජනනය වැලැක්වීම/අඩුකිරීම, හැටහ කැටිතා කිරීම, ප්‍රතිචක්‍රීකරණය සහ පරිසරයට හිතකර අත්දැකීම් අවසාන බැහැරලීම දිරිමත් වන පරිදි සහ අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය යැකයිය යුතුය. එමෙන්ම, මෙම ප්‍රතිපත්ති ආර්ථික, සාර්ථක සහ තාගරික සැලසුම් ප්‍රතිපත්ති ආදිය සමඟ සමගාමී විය යුතුය.

2. සහ අපද්‍රව්‍ය යනු කුමක්ද?

ගෘහස්ත කටයුතු, වෙළඳ හා වාණිජ කටයුතු, කාර්මික හා කෘෂි කාර්මික කටයුතු වලදී මෙන්ම අනෙකුත් සොදු කටයුතු වලදී ද ජාතික වන ද්‍රවමය නොවන ද්‍රව්‍යයන්, සහ අපද්‍රව්‍ය ලෙස සාමාන්‍යයෙන් සැලකිය හැක. ආහාරමය අපද්‍රව්‍ය, ඇසුරුම් වශයෙන් ඉවත් කරන කඩදාසි, ලෝහ, ප්ලාස්ටික්, විදුරු ආදිය, ඉවතලන රෙදි, ගෙවත්තේ ඇතිවන අපද්‍රව්‍ය, ඉදිකිරීම් වලදී ඇතිවන අපද්‍රව්‍ය, කාර්මාන්ත ශාලාවලින් ඉවත ලන දෑ යනාදී විවිධ නොවස්වලින් සහ අපද්‍රව්‍ය සංයුක්ත වී ඇත.

3. සොබාමය හා පාරිසරික වශයෙන් යැක නගින කරුණු

සහ අපද්‍රව්‍ය කළමනාකරණය විධිමත් ලෙස නොකිරීම හා අපද්‍රව්‍ය පරිසරයට හිතකර අත්දැකීම් බැහැර නොකිරීම නිසා සොබාමය හා පාරිසරික ප්‍රශ්න යැක කැනේ. මෙහිදී පාරිසරික වශයෙන් මහජනතාවගේ වැඩි අවධානයට ලක්වූ කරුණක් වී ඇත්තේ ස්වභාවික සොන්දර්ශයට පිදුවන හානියයි. මෙයේ නමුත්, බිසි පාලනයක් නොමැතිව කැලීහසල විවෘතව ගොඩ ගැසීම හේතු නොව ගෙන, ඒ තුලින් පෙර එක ද්‍රවමය ඉවයන් මගින් මතුපිට හා භූගත ජල සම්පත දූෂණයවීම නිසා ඇසට පෙනෙන මෙන්ම ඇසට නොපෙනෙන, සමහරවිට පුනරුත්ථාපනය කළ නොහැකිවන බරපතල පරිසර හානි සිදුවිය හැක. එසේම, විවෘතව පිදුනරන සහ අපද්‍රව්‍ය දහනය මගින් මෙහිම, පිටවන වායුන් ප්‍රමාණවත් ලෙස පාලනය කිරීමට අසමත් වන පද්ධති සහිත උපකරණ තුළ පිදුවන ආකාරයක්වම අපද්‍රව්‍ය දහනය මගින්ද වායු දූෂණය සිදුවිය හැකිය.

ශ්‍රී ලංකාවේ දැනට පවතින සැලසුම් රහිත කැලින්සල බැහැරලීමේ ඉම ශ්‍රී ලංකාව පිළිබඳ අභිගතර ප්‍රතිරූපයක් ගොඩනැගීමට ඉඩහැරුවන අතර, අප රටෙහි කාර්මික සංවර්ධනයට මෙන්ම සංචාරක ව්‍යාපාරයට ද මෙමගින් අහිතකර ප්‍රතිඵල ගෙනදිය හැකිය.

4. සහ අපද්‍රව්‍ය කළමනාකරණය

සහ අපද්‍රව්‍ය ජනනය, ගබඩා කිරීම, එක් රැස් කිරීම, ප්‍රවාහනය, පරිසරයට හිතකර ලෙස වෙනත් ආකාරයකට සකස් කර අවසාන බැහැරලීම යන කරුණු සහ අපද්‍රව්‍ය කළමනාකරණයෙහි අත්හරන ක්‍රියාවලීන් වේ. එය විවිධ අංශ සමග අත්හර සම්බන්ධතා ඇතිව සිදුකෙරෙන සැලසුම්කරණය, සංවිධානය හා පරිපාලනමය කාර්යයන්ගෙන් ද මූල්‍යමය, නිරීක්ෂණ හා ඉංජිනේරුමය අංශයන්ගෙන් ද සමන්විත ක්‍රියාදාමයකි.

5. සහ අපද්‍රව්‍ය කළමනාකරණය සඳහා ජාතික උපාය මාර්ගය

අපද්‍රව්‍ය ජනනය වීම වැලැක්වීම/අඩු කිරීම, නැවත භාවිතා කිරීම, ප්‍රතිචක්‍රීකරණය හා පරිසරයට හිතකර පරිදි අවසාන බැහැරලීම යන කරුණු සහ අපද්‍රව්‍ය කළමනාකරණය සඳහා වන ජාතික උපායමාර්ගයෙහි අත්හරගත විය යුතුය.

• අපද්‍රව්‍ය ජනනය වීම වැලැක්වීම/අඩු කිරීම

නිෂ්පාදන ක්‍රියාවලියේදී මෙන්ම පරිභෝජනයේදී ද අපද්‍රව්‍ය ජනිතවීම නොවැලැක්විය හැකිය. මනා ගෘහස්ථ පාලන හුරුපුරුදු මගින් දැනට පවතින අපද්‍රව්‍ය ජනනය වන සිසුභාවය සැලකිය යුතු ප්‍රමාණයකට අඩු කළ හැකි නිසා, දැනටත් කිරීම සහ අවබෝධය ඇති කිරීම තුළින් අපද්‍රව්‍ය ඇති වීම අඩුකිරීම සඳහා පාරිභෝගිකයින් හා නිෂ්පාදකයින් උනන්දු කිරීම අරමුණු කරගත් ජාතික ප්‍රතිපත්ති සැකසීම අවශ්‍යය.

අවශ්‍යභාවය ඉක්මවන පරිදි ඇසුරුම් භාවිතා කිරීම සහ අපද්‍රව්‍ය ජනිතවීම සිසුයෙන් වැඩිවීමට හේතු කාරක වේ. තම නිවසේදී පාරිභෝගිකයා හට මතුවන බැහැරලීමේ ප්‍රශ්න මෙන්ම අවසාන බැහැරලීමේදී මතුවන ප්‍රශ්න ගැනද සැලකිල්ලට ගෙන අනවශ්‍ය ඇසුරුම් සඳහා වන ඉල්ලුම අවම කිරීම මගින් ඇසුරුම් හේතු කොට ගෙන ඇතිවන අපද්‍රව්‍ය ජනිතවීම බොහෝ දුරට පාලනය කළ හැකිය. දීර්ඝ වන සුළු ඇසුරුම් ද්‍රව්‍ය භාවිතා කිරීම සඳහා පාරිභෝගිකයන් හැඟිණත් දුරට උනන්දු කළ යුතුය. පරිසරයට හිතකර බැහැරලීමේ ඉම අනුගමනය කිරීමට හැකිවන පරිදි, අනවශ්‍ය ඇසුරුම් භාවිතය අවම කිරීම පිණිස නිෂ්පාදකයන් උනන්දු කලයුතු වන අතර, මෙමගින් ඔවුන්ගේ නිෂ්පාදන වියදම ද අවම වනු ඇත.

සලකුණු සහ ඵලදායී වැනි පහසුවෙන් පරිභාහිතව පත්වන ද්‍රව්‍ය ප්‍රවාහනයේදී, ඇසිරීමේදී හා ගබඩා කිරීමේදී අනුගමනය කරනු ලබන නුසුදුසු ඉම නිසා තාහරිත වෙළඳ මධ්‍යස්ථාන වල ජනනය වන සහ අපද්‍රව්‍ය ප්‍රමාණය ඉතා අධික වේ. අපවැනික නෙලාගත් අවස්ථාවේ සිටම නිසිපරිදි ක්‍රියාත්මක වන, සුදුසු තාක්ෂණික ඉම උපයෝගී කර

ගන්නා වෙළඳ දාමයක් ස්ථායීත කිරීම මගින් මේ ආකාරයට අපද්‍රව්‍ය ජනනය වීම වැලැක්වීම හෝ අවම කිරීම සිදු කළ හැකිවේ.

ඇසුරුම් ක්ෂේත්‍රයෙන් ප්‍රායෝගික අපද්‍රව්‍ය ජනනය වීම හැකිතරම් අවම කිරීම සඳහා ඇති හැකියාව පිළිබඳවද අවධානය යොමු විය යුතුය. ප්‍රායෝගික දීර්ඝ වන සුළු නොවන අතර, අපද්‍රව්‍යයක් සේ ඉතාමත් දිගු කාලයක් පරිසරයේ රැඳී පවතී.

නිසි කළමනාකරණයක් නොමැතිව ප්‍රායෝගික අපද්‍රව්‍ය බැහැරකිරීම දැනට ශ්‍රී ලංකාවේ උග්‍ර පාරිසරික සහ සෞඛ්‍යමය ප්‍රශ්නයක් බවට පත්ව ඇත. ඉමවත්, නිසි පරිදි ස්ථාපිත, ප්‍රායෝගික ප්‍රතිචක්‍රීකරණ වැඩ පිළිවෙලක් ශ්‍රී ලංකාවේ නොමැතිවීම නිසා මෙම ප්‍රශ්න ඉදිරියේදී තවදුරටත් උග්‍ර විය හැකි බැවින්, නවදායී, විදුරු, රෙදි සා අනිකුත් දීර්ඝ වන විය හැකි ද්‍රව්‍ය භාවිතා කිරීම මගින් ප්‍රායෝගික භාවිතය අවම කිරීමට උත්සාහ ගත යුතුය.

ඇතැම් ද්‍රව්‍ය අසුරුණය සඳහා ප්‍රායෝගික භාවිතය අත්‍යවශ්‍ය බැවින්, ඇසිරීමේ කාර්මිකයන්ගේදී ප්‍රායෝගික භාවිතය සම්පූර්ණයෙන්ම නැවැත්වීමට නිසිකෙටි නොහැකිය. දීර්ඝ වන ප්‍රායෝගික වල මිළ අධිකභාවය නිසා, ඒවාට දීර්ඝ වන නොවන ප්‍රායෝගික ඇසුරුම් සමග තරඟ කළ නොහැකිය. කෙසේ වෙතත් දීර්ඝ වන නොවන ප්‍රායෝගික වල දිගු ජීවන කාලය හේතුවෙන් බැහැරලීමේදී ඇතිවන ගැටළු නිසා මතුවන වියදම් සැලකිල්ලට ගෙන, දීර්ඝ වන ප්‍රායෝගික භාවිතය දිරිගැන්වීමේ පරිපාටියක් ඉදිරිපත් කළ හැකිය.

කෙලින්ම ඉවත දැමීමට තුඩුදෙන ඇසුරුම් ඉම වෙනුවට දීර්ඝකාලීනව මෙන්ම විවිධ අන්දමට භාවිතා කළ හැකි ඇසුරුම් නිෂ්පාදනය පිළිබඳව ද වැඩි අවධානයක් යොමු කළ යුතු වේ. නාවික අපද්‍රව්‍ය තමන් විසින්ම කොමිපෝසට් කිරීමට දායක වීමෙන් නිවසේ හිමියන්ගට, තම අපද්‍රව්‍ය ප්‍රධාන අපද්‍රව්‍ය ඵලදායීවීමේ හා බැහැරලීමේ මාර්ගයට පැමිණීම වලක්වා ගැනීම මගින් අපද්‍රව්‍ය ඇතිවීම අවම කළ හැක. එමෙන්ම, නිෂ්පාදන ක්‍රියාවලියේදී ඉතිරිවන අපද්‍රව්‍ය, අමුද්‍රව්‍ය ලෙස ආපසු භාවිතා කිරීම වැනි සංවෘත ක්‍රියාවලියක් අනුගමනය කිරීමෙන් අපද්‍රව්‍ය ඇතිවීම වැලැක්වීම සඳහා දායක වීමට නිෂ්පාදකයන් හට හැකි වේ.

• අපද්‍රව්‍ය නැවත භාවිතා කිරීම

අපද්‍රව්‍ය නැවත භාවිතා කිරීම මගින් අපද්‍රව්‍ය අඩු කිරීමට හැකිවේ. යම් නිෂ්පාදකයන් තවදුරටත් භාවිතා නොකළ හැකි භනවයකට පත්වූ විට අපද්‍රව්‍යයක් බවට පත්වේ. එම නිසා ගෘහස්ථය මිලයට ගත් අවස්ථාවේ පැවති අවශ්‍යභාවයට එය නුසුදුසු වූ විට පරිසරයට හිතකර ආකාරයට වෙනත් අවශ්‍යභාවයක් හෝ කාර්යයක් ඉටු කිරීම සඳහා භාවිතා කිරීමට හැකි සෑම අවස්ථාවකදීම, එකවරම එම ගෘහස්ථය අපද්‍රව්‍ය ලෙස ඉවත් නොකොට නැවත භාවිතා කිරීමට පාරිභෝගිකයින් උනන්දු කළ යුතුය.

වර්තමානයේදී සහ අපද්‍රව්‍ය බැහැරලීමේ ස්ථාන වැඩි වශයෙන් පවත්වා ගෙන යනු ලබන්නේ මිතුපිට හා භූගත ස්ලය අපවිත්‍රවීමේ අවදානමක් ඇති පහතබිම් ප්‍රදේශවලය. එබැවින් සහ අපද්‍රව්‍ය බැහැරලීමට සුදුසු ස්ථාන හඳුනා ගැනීමේදී මුළු රටම සැලකිල්ලට ගත යුතු වන අතර, භූමි, ජල හා වායු දූෂණය අඩු කිරීම සහතික වීම සඳහා නිර්මය වශයෙන් අවශ්‍ය වන මූලික පාරිසරික පරීක්ෂණ හෝ පාරිසරික බලපෑම් ඇගයීම් වාර්තා පිළියෙල කොට අවශ්‍ය අනුකූලතාවය ලබාගත යුතුය. දැනට පවත්වාගෙන යනු ලබන අවිධිමත් කැලීනසල බැහැරලීමේ ක්‍රම ගහනම් තල යුතු වන අතර, ඒ වෙනුවට මධ්‍යම පරිසර අධිකාරියේ මාර්ගෝපදේශකතවය යටතේ පිහිටුවන ලද සතිපාරිසරික කසල රඳවන හෝ දැඩි ලෙස පාලනය කරන ලද තත්වය යටතේ සිදුකෙරෙන කසල රඳවන හෝ පවත්වාගෙන යාමට ලක්විය යුතුය.

කසල ගෘහීකරණය (Incineration)

අපද්‍රව්‍ය ගෘහීකරණය යන්නෙන් අදහස් කරනුයේ දහනය කළ හැකි සහ, ද්‍රව, හා වායුමය අපද්‍රව්‍ය යම්කිසි පාලනය කරන ලද තත්වයන් යටතේ දහනය කිරීමකින් වායු හා තවදුරටත් දහනය කල නොහැකි ද්‍රව්‍ය බවට පත්කිරීමේ ක්‍රියාවලියයි. අපද්‍රව්‍ය දහනයේදී එහි අඩංගු තෙතමනය වාෂ්ප බවට පත්වීම හා ඔක්සිකරණය සිදුවේ. මෙහි අවසාන ප්‍රතිඵලය ලෙස තාබන් වයෝකසයිඩ්, ජල වාෂ්ප, අළු හා දහනය කල නොහැකි ද්‍රව්‍ය ඇතිවේ. සුදුසු පාලන ක්‍රම නොමැතිව කරනු ලබන දහනය කිරීමටද වායු දූෂණයට හේතු කාරක වන වායුන්, වායුගෝලයට එක්වේ. එම නිසා මෙම ක්‍රියාවලියේදී, වායු දූෂණය අවම කිරීමට අවශ්‍ය ප්‍රතිකර්ම සැලසිය යුතුය. ලංකාවේ පළාත් පාලන ආයතන මගින් එනතු වන අපද්‍රව්‍ය සලකා බලනවිට ඒවායේ අන්තර්ගත අධික තෙත ගතිය සහ අඩු ශක්තිජනක අගය නිසා ඒවා ගෘහීකරණය කිරීම මගින් බැහැරලීම ආර්ථික වශයෙන් ලාභදායී නොවේ.

හෙයේ නමුදු ආරෝග්‍යශාලා, සායනවලින් ඉවත් කෙරෙන අපද්‍රව්‍ය වල ඇති උපද්‍රවකාරී ගාවයන් එවැනි උපද්‍රවකාරී අපද්‍රව්‍ය බැහැරලීම සඳහා විශේෂිත කසල රඳවන ඉදි කිරීමට ඇති අපහසුතාවයන් නිසා, පරිසරයට හිතකර ලෙස ගෘහීකරණය කිරීම මගින් බැහැරලීම ක්‍රමවේදයක් වී තිබේ. හෙයේ නමුත්, එවැනි අපද්‍රව්‍ය දහනය කිරීමෙන් අනතුරුව ඉතිරි වන දැ බැහැර කැරලීම සඳහා කසල රඳවන පහසුකම් අවශ්‍ය බවද මෙහිදී සඳහන් කළ යුතුය. මේ නිසා ආරෝග්‍යශාලා අපද්‍රව්‍ය කළමනාකරණය, ඒ සඳහා සුහුණු කිරීම හා හැකියාවන් වර්ධනය සහ, එම අපද්‍රව්‍ය අවම

කිරීම කෙරෙහි වැඩි අවධානයක් යොමු කළ යුතුය. අපද්‍රව්‍ය ගෘහීකරණයේදී ජනිත විය හැකි වායුන් වන වයෝකසික හා පිපුරාන ආදී වායුන් සම්බන්ධයෙන් කිරීමට හෝ පාලනය කිරීමට හැකියාවක්, දියුණුවීමක් පවතින රටක් වන ශ්‍රී ලංකාව සතුව නොමැත. එබැවින්, අඩු වියදම් සහිත බැහැරලීමේ ක්‍රමයක් අනුගමනය කිරීමට හැකිවන පරිදි ආරෝග්‍යශාලා අපද්‍රව්‍ය වෙන් වශයෙන් එකතු කිරීම සිදු කළ යුතුය. ආරෝග්‍යශාලා අපද්‍රව්‍ය බොහෝමයක්ම, විසබිර භාගනය හා උදාසීනකරණය කළ හැකි වන අතර, ඉන් අනතුරුව අඩු වියදම් තාක්ෂණික ක්‍රම මගින් බැහැරලිය හැකිවේ.

බලශක්ති ජනනය

ප්‍රතිවක්‍රීකරණය කළ හැකි සංකටක ඉවත් කළ පසු, භාජ ශක්තිය හෝ විදුලි බලය උත්පාදනය කිරීම සඳහා භාවිතා කලහැකි අපද්‍රව්‍ය සැලකිය යුතු ප්‍රමාණයක් ඉතුරු විය හැක. කසල රඳවනයක අවසාන බැහැරලීමට පෙර, ආර්ථිකව ලාභදායී ලෙස කළ හැකි තම්, දහනය වන සුළු ද්‍රව්‍ය බලශක්තිය උත්පාදනය සඳහා භාවිතා කිරීම යෝග්‍ය වේ. අපද්‍රව්‍ය බැහැරලීමේ ක්‍රමයක් වශයෙන් ගෘහීකරණය යොදාගන්නා අවස්ථාවන්හිදී, වායු දූෂණය පාලනය කිරීම පිළිබඳව විශේෂ අවධානයක් යොමු කළ යුතුය.

අපහේ අපද්‍රව්‍යවල බහුතරය භාවිත සංයුතියෙන් යුතු නිසාත් සියළුම කාබනික ද්‍රව්‍ය ඉක්මණින් කොම්පෝස්ට් නොවන නිසාත් කාබනික අපද්‍රව්‍ය විශාල ප්‍රමාණයක් කසල රඳවන වල එකතුවීම් සිදු වනු ඇත. විශාල ප්‍රමාණයේ සතිපාරිසරික කසල රඳවන වලින් බලශක්ති ප්‍රභවයක් ලෙස වායුව එක්රැස් කර ගැනීමට හැකියාවක් ඇත. කසල රඳවනයක්ගෙන් පිටවන වායුන් මගින් බලශක්තිය ලබා ගැනීමේ ප්‍රවකතාවය, එම ක්‍රමය ආර්ථික වශයෙන් වාසිදායී ලෙස කිරීමට ඇති හැකියාව ඉහල රඳා පවතින බැවින්, කසල රඳවන වලින් වායුව පිටවීම පාලනය කිරීම සඳහා අවශ්‍ය වන යටිතල පහසුකම් සංවර්ධනය කළ යුතුය.

ජීව වායු ප්‍රයෝජනයට ගැනීම

නිර්වායු තත්වයට යටතේ ජීරණය සිදුවීමේදී කොම්පෝස්ට් නිෂ්පාදනයටද, ශක්ති ප්‍රභවයක් ලෙස ජීව වායුව ලබා දීමටද, අධික කාබනික ස්වභාවයෙන් යුත් අපද්‍රව්‍ය වලට හැකියාව ඇත. එම නිසා අධික කාබනික සංයුතියෙන් යුත් අපද්‍රව්‍ය බැහැරලීමේ ක්‍රමෝපායක් වශයෙන් ජීව වායු භාක්ෂණයද සැලකිය හැකිය.

6. ජනතාව වන ස්ථානයේදී සයල වෙන් කිරීම

ජනතාව වන ස්ථානයේදී අපද්‍රව්‍ය හෝ වෙනත් කිසිදු දෑ, ඇතුළත් කිරීමේ වැඩ සටහන් හා අධ්‍යාපනය ලබා දීම ආදිය දිරිමත් කළ යුතු වැදගත් කටයුත්තකි. ජනතාව වන ස්ථානයේදී අපද්‍රව්‍ය හෝ වෙනත් කිසිදු දෑ, ප්‍රතිවක්‍රීකරණය ආර්ථික වශයෙන් ලාභදායී ලෙස කිරීමට සැලසිය යුතු අත්දැකීම් උපකාරී වේ. අපද්‍රව්‍ය ඇතිවන ස්ථානයේදීම එවා වෙන් කිරීම දිරිමත් වනු පිණිස, ඒ සඳහා අවශ්‍ය වන යටිතල පහසුකම් ඇති කළ යුතු වන අතර, එමගින් විධිමත් හා අවධිමත් අපද්‍රව්‍ය එකතු කිරීමේ ක්‍රම සාර්ථක ලෙස ස්ථාපිත වනු ඇත. ඊට ආදායම් අවස්ථා උත්සාදනය වීමටද මෙය පිටුවහලක් වනු ඇත.

එමෙන්ම, ප්‍රතිවක්‍රීකරණය මගින් නිවසාදනය වන ද්‍රව්‍ය සඳහා වෙළඳ පොල වැඩි දියුණු කිරීම සඳහා ඉටුසල් වන ප්‍රතිපත්ති සකස් කළ යුතුය.

7. ඒකාබද්ධ සහ අපද්‍රව්‍ය කළමනාකරණ උපාය මාර්ගය

කාර්යක්ෂම සහ අපද්‍රව්‍ය කළමනාකරණ උපාය මාර්ගයක මූලික සඳහන් කර ඇති සියලු කාර්යයන් සාර්ථකව, ආර්ථික වශයෙන් ඵලදායී ලෙස සිදුවේ. පළාත් පාලන ආයතන සියයක් එකතු වී එම ආයතන බල සීමා ආල ජනිත වන අපද්‍රව්‍ය ප්‍රමාණය හා වර්ගය සැලකිල්ලට ගෙන, අපද්‍රව්‍ය අවම කිරීම, නැවත භාවිතා කිරීම, ප්‍රතිවක්‍රීකරණය හා පරිසරයට හිතකර ආකාරයට අවසාන බැහැරවීම සාර්ථකව සිදුකෙරෙන පරිදි සහ අපද්‍රව්‍ය කළමනාකරණය සඳහා ඒකාබද්ධ උපාය මාර්ගයක් ගොඩ නැගිය හැකිය.

මෙවැනි උපාය මාර්ගයක ප්‍රධාන අරමුණ විය යුත්තේ,

- ⇒ ප්‍රතිවක්‍රීකරණයට වඩා අපද්‍රව්‍ය ජනනය වීම අවම කිරීමට මූලිකත්වය දීම සහ අපද්‍රව්‍ය බැහැරවීමේ අතිභූත ක්‍රම වලට වඩා ප්‍රතිවක්‍රීකරණය කිරීමට මූලිකත්වය දීම
- ⇒ කොටු-ලැහවිය හැකි අවස්ථා වලදී ඇතිවන අපද්‍රව්‍ය හැකි තාක් දුරට නැවත භාවිතා කිරීම
- ⇒ අපද්‍රව්‍ය වල අඩංගු උපද්‍රවකාරී ද්‍රව්‍ය ප්‍රමාණය හැකි තාක් අවම මට්ටමක පවත්වා ගැනීම, සහ
- ⇒ මිනිසාගේ සැවැත්මට ඉවහල්වන මූලික කරුණක් සේ සලකා, පරිසරයට හිතකර වන ලෙස අවසන් අතුරුඵල සකස් කිරීම සහ, අවසානයේදී, එම අතුරුඵල අවසාන ලෙස බැහැරකිරීම තහවුරු කිරීම වේ.

8. මෙහෙයුම් ව්‍යුහය

- පළාත් පාලන ආයතන යටතේ ඇති විධිවිධාන
 - සහ අපද්‍රව්‍ය කළමනාකරණ සඳහා අවශ්‍ය නීතිමය සැලැස්ල පළාත් පාලන ආයතන අණසකක් ආල ප්‍රමාණවත් ලෙස අඩංගු වේ. එසේම ඊට

අභ්‍යන්තරයේ සහ අපද්‍රව්‍ය එකතු කිරීම හා බැහැර කිරීම පළාත් පාලන ආයතන සතු වගකීමකි. මහනගර සභා ආඥාපනතේ 129,130 හා 131 යන වගන්ති, නගර සභා ආඥාපනතේ 118,119 හා 120 යන වගන්ති හා ප්‍රාදේශීය සභා ආඥාපනතේ 93 හා 94 යන වගන්ති මගින් අදාළ බල ප්‍රදේශ ආල සහ අපද්‍රව්‍ය කළමනාකරණය හා බැහැර කරලීම සඳහා අදාළ නීතිරීති සැහැදිලිව හා ප්‍රමාණවත් ලෙස දක්වා ඇත.

ප්‍රාදේශීය සභා ආඥාපනතේ, නගර සභා ආඥාපනතේ හා මහනගර සභා ආඥාපනතේ එන සහ අපද්‍රව්‍ය කළමනාකරණය හා සම්බන්ධ වගන්ති පහත දැක්වේ.

- (අ) සියලුම විධි අපද්‍රව්‍ය, ගෘහස්ථ අපද්‍රව්‍ය හා වැසිකිලි අපද්‍රව්‍ය හෝ පළාත් පාලන ආයතන මගින් එකතු කරනු ලබන එවැනි ද්‍රව්‍ය මේ කොටසේ ඇති වගන්තිවලට අනුව අදාළ පළාත් පාලන ආයතනයේ දේපල බවට පත්වන අතර, මේ සියලුම ද්‍රව්‍ය විකිණීමට හෝ බැහැර කරලීමට අවශ්‍ය සියලුම බලතල පළාත් පාලන ආයතනය සතු වේ.
- (ආ) සියළුම පළාත් සභා, නගර සභා හා මහනගර සභා මගින් සියළුම විධි අපද්‍රව්‍ය ගෘහස්ථ අපද්‍රව්‍ය වැසිකිලි අපද්‍රව්‍ය හෝ මෙම පනතේ විධිවිධාන ලෙස ඉවත් කරනු ලබන ද්‍රව්‍යයන් නිසියාකාර බැහැර කරලීම සඳහා ස්ථාන, කලින් කලට සපයනු ලබන අතර, මේ සඳහා අවශ්‍ය වන වාහන, සතුන්, උපකරණ හෝ අනිකුත් දෑ පවත්වාගෙන යායුතු වන අතර, එවැනි අපද්‍රව්‍ය, වැසිකිලි අපද්‍රව්‍ය හෝ වෙනත් එවැනි අපද්‍රව්‍ය මහජනයාට පිටාවක් ඇති නොවන සේ බැහැර කරලීම සඳහා මේ පනතේ විධිවිධාන ප්‍රකාරව අවශ්‍ය සියළු වැඩ සිදුවෙලවල් හා පුර්වාරක්ෂක විධිවිධාන සැලසිය යුතුය.

- ජාතික පාරිසරික පනත යටතේ පනවා ඇති විධිවිධාන
 - ජාතික පාරිසරික පනතේ 12 වන වගන්තිය අනුව, මධ්‍යම පරිසර අධිකාරිය විසින්, අමාත්‍යවරයාගේ එකඟත්වය ඇතිව, යම් පළාත් පාලන ආයතනයක ප්‍රාදේශීය සීමා ආල පරිසරය රැක ගැනීම සහ ආරක්ෂා කිරීම සඳහා අවශ්‍යයයි අධිකාරිය සලකන යම් ක්‍රියාවක් හෝ දෙයක් කරන ලෙස හෝ කරනු ලැබීමට සලස්වන ලෙස විශේෂ හෝ පොදු විධාන කලින් කල, ලියවිල්ලකින් ඒ පළාත් පාලන ආයතනයට දෙනු ලැබිය හැකිය.
 - (1) වන උපගවකර්මය යටතේ විධානයක් දෙනු ලබන ලද සෑම පළාත් පාලන ආයතනයක්ම ඒ විධානයට අනුකූලව ක්‍රියා කළ යුතුය.

ජාතික පාරිසරික පනතේ 23 (අ) වගන්තියට අනුව, (මෙහි මින්මතු "අදාළ දිනය" යනුවෙන් සඳහන් කරනු ලබන) අමාත්‍යවරයා විසින් ගැටට පත්‍රයේ පල කරනු ලබන නියමයන් මගින් කියම කරනු ලැබිය

හැකි යම් දිනයක සිට ක්‍රියාත්මක වන පරිදි, සවිච්ඡේදිත හෝ හැඟුණකද වියහැකි :

- (අ) අධිකාරිය පිහිටි නිකුත් කරනු ලබන බලපත්‍රයක බලය යටතේ සහ
- (ආ) මේ ජනතා යටතේ නියම කරනු ලැබූ හැකි වෙනත් යම් ප්‍රතිඵලවලට හා වෙනත් උපමාන වලට අනුකූලව හැර පරිසර දූෂණය සිදුවිය හැකි අපද්‍රව්‍ය පරිසරය වෙත බැහැර කිරීම, පරිසරයෙහි හැඟුණක් කිරීම හෝ පරිසරය වෙත පිට කිරීම නොකළ යුතුය.

මෙහිදී, "අපද්‍රව්‍ය" යන්නට අපද්‍රව්‍ය බවට පියවීම කරන ලද යම් ද්‍රව්‍යයන් සහ යම් ඝනත්වයකින්, සංයුතියකින් හෝ ආකාරයකින් යුත් පරිසරයේ වෙනසක් ඇති කිරීම සඳහා පරිසරය වෙත බැහැර කරන ලද, පිට කරන ලද හෝ බහා හඬන ලද දියර, ඝන, වායු හෝ විකිරණශීලී හෝ යම් ද්‍රව්‍යයක් ඇතුළත් වේ.

පාරිසරික බලපෑම් ඇගයීම

දිනකට වටා 100 කට වැඩි ප්‍රමාණයක් හැඟුණක් වන කැසල රඳවන සඳහා, 1993 ජූනි මස 23 දින අතිවිශේෂ හැඟුණ 772/22 යටතේ පනවනු ලැබූ පාරිසරික බලපෑම් ඇගයීම් රෙගුලාසි ප්‍රකාශයට පරිසර බලපෑම් ඇගයීමක් සිදුකළ යුතු බව ජාතික පාරිසරික ජනතෙහි දැක්වේ. ඝන අපද්‍රව්‍ය අපහරණය සඳහා සුදුසු ස්ථාන හඳුනාගැනීමේදී, මුළු රටම සැලකිල්ලට ගෙන එය සිදුකළ යුතුය. කැසල රඳවනයක් සකස් කිරීම සඳහා අවශ්‍ය අනුමැතිය ලබාගැනීමේදී, නිකුත් වලින් දැක්වෙන පරිදි මූලික පරිසර පරීක්ෂාවක් හෝ පරිසර බලපෑම් ඇගයීමක් සිදුකළ යුතුය. කෙසේ වෙතත් පළාත් පාලන ආයතන වලට අයත් සියළුම ඝන අපද්‍රව්‍ය බැහැරවීමේ ස්ථාන සඳහා මූලික පරිසර පරීක්ෂාවක් හෝ පරිසර බලපෑම් ඇගයීමක් සිදුකළ යුතු බව දැක්වෙන සේ දැනට පවතින විධිවිධාන වෙනස් විය යුතුය. කැසල රඳවනයකින් පෙර එන අපද්‍රව්‍ය මගින් ඇතිවිය හැකි පරිසර දූෂණය, බොහෝ කාර්මික අපද්‍රව්‍ය මගින් ඇතිවන්නාවූ පරිසර දූෂණයට වඩා වැඩිවේ. එම නිසා කැසල රඳවුමක් ක්‍රියාත්මක කිරීම සඳහා පරිසර ආරක්ෂණ බලපත්‍රයක් තිබීම අත්වාරය කළ යුතුය.

9. දිරිගැන්වීම හා නිති ක්‍රියාත්මක කිරීම

දැනට පළාත්පාලන ආයතන සතු සම්පත් කාර්යක්ෂම ඝන අපද්‍රව්‍ය කළමනාකරණ උපාය මාර්ගයක් ක්‍රියාත්මක කිරීම සඳහා ප්‍රමාණවත් නොවේ. ඝන අපද්‍රව්‍ය කළමනාකරණ උපාය මාර්ගයක් සකස් කිරීම සහ නිරසා ලෙස එය ක්‍රියාත්මක කිරීම දිරි ගැන්වීම සඳහා, පළාත් පාලන ආයතනවලට අවශ්‍ය මූල්‍යමය හා තාක්ෂණික ආධාර සැපයිය යුතුය. නිතියට අනුකූලව කටයුතු කිරීම සාක්ෂාත් කිරීම සඳහා මෙවැනි දිරිගැන්වීම් සහ නිති ක්‍රියාත්මක කිරීම ඒකාබද්ධ වේට ගත් ක්‍රියාමාර්ගයක් අනුගමනය කළ යුතුය. කාර්යක්ෂම ඝන අපද්‍රව්‍ය කළමනාකරණ උපාය මාර්ගයක් ක්‍රියාත්මක කිරීම සඳහා සිය වාර්ෂික වැය

ඇස්තමේන්තුවලින් සාධාරණ ප්‍රතිශතයක් වෙන් කිරීමට පළාත් පාලන ආයතන කටයුතු කළ යුතුය.

10. පර්යේෂණ සහ සංවර්ධන කටයුතු

ඝන අපද්‍රව්‍ය කළමනාකරණ උපාය මාර්ගයක් සාර්ථකව ක්‍රියාත්මක කිරීමේදී, පර්යේෂණ හා සංවර්ධන කටයුතු විශාල කාර්යභාරයක් ඉටු කරයි. එමෙන්ම, ඝන අපද්‍රව්‍ය කළමනාකරණයේ කටයුතු තාක්ෂණ ක්‍රම හා ප්‍රතිඵලිකරණ ක්‍රම, ද්‍රව්‍ය හා සම්පත් කැටයම් කිරීම සහ, නව තාක්ෂණික ක්‍රම සොයා ගැනීම ආශ්‍රිත පර්යේෂණ සිදුකිරීම අවශ්‍ය වන අතර, ඝන අපද්‍රව්‍ය කළමනාකරණ උපායමාර්ග සාර්ථකව ක්‍රියාකිරීමේදී එය වැදගත් කාර්ය භාරයක් ඉටු කරනු ඇත.

11. පොදුගලික අංශයෙහි සහභාගිත්වය.

ඝන අපද්‍රව්‍ය කළමනාකරණයේදී පොදුගලික අංශයේ සහභාගිත්වය දිරිමත් කළ යුතු අත්‍යවශ්‍ය අංගයකි. අපද්‍රව්‍ය එකතු කිරීම සහ ප්‍රවාහනය හා සම්බන්ධ යටිතල පහසුකම් සංවර්ධනය කිරීමේදී දැනට ප්‍රතිඵලිකරණ කටයුතු වල නියැලී ආයතන වල සහභාගිත්වය වඩාත් දිරිමත් කළ යුතුය. විදුරු, ලෝහ, හඩදාසි ආදිය ප්‍රතිඵලිකරණය දිරිමත් කිරීම පිණිස අවශ්‍ය වන මධ්‍යම ප්‍රමාණයේ කර්මාන්ත වැඩිදියුණු කිරීමේ උපාය මාර්ග සකස් කළ යුතු වන අතර, ඒ තුළින් එම ප්‍රතිඵලිකරණ කර්මාන්තවලට ප්‍රමාණවත් ආරක්ෂාවක් සැපයිය යුතුය. එසේ, සිත්හන්තාපුර මූල්‍යමය හා තාක්ෂණික ආධාර මගින් ප්‍රාදේශීය හා දිස්ත්‍රික් මට්ටමින් ප්‍රතිඵලිකරණ කර්මාන්ත ස්ථාපනය කිරීම දිරිමත් කළ හැකි වනු ඇත. අපද්‍රව්‍ය එකතු කිරීමේදී හා ඉවත් කිරීමේදී පොදුගලික අංශයක් සාර්ථක සහභාගිත්වයක් ලබා ගැනීම පිණිස මෙවැනි වාහාවරණයක් සැකසීම මූලික පියවරක් වනු ඇත.

අපද්‍රව්‍ය එකතු කිරීම හා ප්‍රවාහනය සඳහා අවශ්‍ය යටිතල පහසුකම් වැඩි වැඩියෙන් සැපයීම මගින්, කොමිපොස්ට් කරණය සඳහා පොදුගලික අංශයේ සහභාගිත්වයද දිරිමත් කළ හැකිය. පස සාරවත් කරන කාර්යයක් ලෙස කොමිපොස්ට් ගැවිතා කිරීමට ගොවීන් උගන්වූ කිරීම තුළින් කොමිපොස්ට් සඳහා හොඳ වෙළඳපොලක් ඇති කළ යුතුය. ඝන අපද්‍රව්‍ය සම්පතක් ලෙස සලකමින් එම අපද්‍රව්‍ය ප්‍රතිඵලිකරණය කිරීමට පොදුගලික අංශය දිරිමත් කරවන ප්‍රතිපත්ති සකස් කළ යුතුය.

ඝන අපද්‍රව්‍ය එකතු කිරීම හා බැහැර කිරීම ආදී කාර්යයන් පුද්ගලික අංශයට පැවරීම මගින් වඩාත් කාර්යක්ෂම සේවාවක් ලබා ගැනීමට ඇති හැකියාව පිලිබදව පළාත් පාලන ආයතන වඩාත් පැලකිලිමත් ලෙස අවධානය යොමු කළ යුතුය. තාගරික අපද්‍රව්‍ය එකතු කිරීමේදී හා බැහැර කිරීමේදී පුද්ගලිකකරණය වඩාත් ඵලදායී ක්‍රියාමාර්ගයක් විය හැකිය.

12. ජනතා සහභාගිත්වය

මිනුම ඝන අපද්‍රව්‍ය කළමනාකරණ උපාය මාර්ගයක් ක්‍රියාත්මක කිරීමේදී ජනතා සහභාගිත්වය සහ සහයෝගය අත්‍යවශ්‍ය වේ. ඝන අපද්‍රව්‍ය සෑම පුද්ගලයෙක් මගින්ම ජනිත වේ. එමෙන්ම ඝන අපද්‍රව්‍ය අනුමත ලෙස කළමනාකරණය කෙරුණොත් ගෙන ඇතිවන අහිතකර සෞඛ්‍ය හා පාරිසරික බලපෑම් පිලිබදව මහජනතාවගේ දැඩි අවධානය යොමු වේ. සාමාන්‍යයෙන් ඝන අපද්‍රව්‍ය කළමනාකරණය පළාත් පාලන ආයතන සතු කාර්යභාරයක් ලෙස සලකනවා මිස, එම කාර්යය පරිසරයට හිතකර ලෙස ඉටුකිරීමේදී තම තමාට දායක විය හැකි ආකාරයක්, ඒ මගින් තම සෞඛ්‍යය වියදම් අඩුකර ගැනීමේ වැදගත්කමින් පිලිබද

එරටම හැසිරීමක් මතභේදනාදී භූමි හෝ භූමි භුක්තිය සහභාගිත්වයකින් තොරව අපද්‍රව්‍ය ජනනය අඩුකිරීම, නැවත භාවිතා කිරීම සහ ප්‍රතිචක්‍රීකරණය සාර්ථකව ඉටු කළ නොහැකිය.

ජනනය වන ස්ථානයේදීම අපද්‍රව්‍ය වෙන් කිරීම, විශේෂයෙන්ම ප්‍රතිචක්‍රීකරණ කර්මාන්තයේදී පුද්ගලික අංශයේ සහභාගිත්වය ලබාගැනීමේඉලා වැදගත් වේ. එමනිසා අධ්‍යාපනය හා දැනුවත් කිරීම මගින් මහජන සහභාගිත්වය හැකිතාක් දුරට දිරිමත් කළ යුතුය.

මූලික සහ අපද්‍රව්‍ය කළමනාකරණ උපාය මාර්ගයන් සාර්ථක ලෙස ක්‍රියාත්මක කිරීම සඳහා මුල් අවදියේ සිටම මහජන සහභාගිත්වය ලබාගත යුතුය. සහ අපද්‍රව්‍ය කළමනාකරණය සඳහා එලදායී ලෙස සිය සහයෝගිභාවය දක්වන ජන සමාජයකට, ජීවිතයේ ඉතාම අගනා අවශ්‍යතාවයන් වන සෞඛ්‍ය සම්පන්න පරිසරයක ජීවත්වීමේ අවස්ථාව උදාවේ.

13. රජයේ කාර්යාලයන්

සහ අපද්‍රව්‍ය අනුමත ලෙස බැහැර කරලීම වලක්වා පරිසරයට හිතකර අන්දමින් අපද්‍රව්‍ය බැහැර කරලීම සඳහා අවශ්‍ය වන, අපද්‍රව්‍ය එකතු කිරීමේ හා ප්‍රවාහනය කිරීමේ පද්ධති සහිත යටිතල පහසුකම් ඇති කර ලීම පිණිස අවශ්‍ය වන්නාවූ මූලික පියවරවල් රජය විසින් ගනු ලැබිය යුතුය. ප්‍රතිචක්‍රීකරණ කර්මාන්ත ආශ්‍රිත නිෂ්පාදන ක්‍රියාවලියකින් ආරම්භ වන අතර එලදායී තත්ත්වයකට පත් කරලීමට මෙය උපකාරී වේ. යටිතල පහසුකම් ක්‍රියාත්මක කිරීමේදී ඇති වන විදාමී පියවර හැකිම සඳහා, සුදුසු පරිදි, පරිසරයේ සහ සමාජයේ "ගාමික ගාස්තු" අයකිරීමේ ක්‍රමයක් සකස් කළ යුතුය. ප්‍රමාණවත් යටිතල පහසුකම් නොමැතිවීම හේතු නොව ගෙන සහ අපද්‍රව්‍ය කළමනාකරණයේ ආරම්භක අවස්ථාවලදී පෞද්ගලික අංශයේ දායකත්වය කිසි පමණකින් ලබාගත නොහැකි නිසා, අපද්‍රව්‍ය කළමනාකරණ ක්‍රම රට භූමි ස්ථාපනය කිරීමට අවශ්‍ය මූලික ආයෝජනය රජය සැපයිය යුතු වේ. සහ අපද්‍රව්‍ය කළමනාකරණයෙහි නිරතව ඇති පුද්ගලික අංශයේ සහභාගිත්වය දිරිමත් කරන අතර ආර, රජයේ ආයෝජනයක් යම්කිසි දරාගත හැකි මට්ටමක් දක්වා ක්‍රම ක්‍රමයෙන් ඉටු කළ හැකි වනු ඇත. සහ අපද්‍රව්‍ය කළමනාකරණ උපාය මාර්ගය ක්‍රියාත්මක කිරීම සඳහා ජාතික මට්ටමේ ප්‍රතිපත්ති රජය විසින් සකස් කළ යුතුය. මෙම ප්‍රතිපත්ති කිසි පරිදි ක්‍රියාත්මක කිරීම සඳහා සුදුසු ජෛවික පදනමක් ඇති කිරීමේදී ඉතාම වැදගත් වන්නේය.

14. සහ අපද්‍රව්‍ය කළමනාකරණය සඳහා විවිධ අංශවල සහභාගිත්වය සහ අංශ අතර ක්‍රියාකාරීත්වයේ අවශ්‍යතාවය

සහ අපද්‍රව්‍ය කළමනාකරණය පිළිබඳ වගකීම පළාත් පාලන ආයතනවලට පමණක් සීමා නොකළ යුතුය. සහ අපද්‍රව්‍ය කළමනාකරණයේ එක් එක් අවස්ථා සඳහා රජය ද, මහජනතාවද, පෞද්ගලික අංශයද, පුරා සහෝදායමිද ආදී සෑම ජන කොටසක්ම සාමූහික වගකීම් යුතු වන අතර, එය මවුත්තේ යුතුකමක් ද වන්නේය. කාර්මික සංවර්ධනයේදී කාර්මික ස්පර්ශයට දෙනු ලබන දිරි ගැන්වීම් හා පහසුකම් සහ අපද්‍රව්‍ය කළමනාකරණ උපාය මාර්ග සැකසීමේ හා ක්‍රියාත්මක කිරීමේ නිරතවන පළාත් පාලන ආයතනවලටද ලබාදිය යුතුය. සහ අපද්‍රව්‍ය කළමනාකරණයේ අදාළ සියලු ජන කොටස් වල සහභාගිත්වය ලබාගත යුතු වන අතර, මේ සඳහාද දින ව්‍යාප්ත ජන අවබෝධය හා අධ්‍යාපනය ලබාදීමේ වැඩ සටහන් ක්‍රියාත්මක කළ යුතුය.

15. සහ අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය සඳහා වූ ජාතික උපාය මාර්ග ක්‍රියාත්මක කිරීම සඳහා වන ආයතනික සන්රණය

සහ අපද්‍රව්‍ය කළමනාකරණ ජාතික උපාය මාර්ග ක්‍රියාත්මක කිරීමේඉලා සුදුසු ආයතනික ව්‍යුහයක් ඇති කිරීම ඉතා වැදගත්ය. ජාතික, පළාත් සහ පළාත් පාලන මට්ටමේ සම්බන්ධීකරණ ව්‍යුහයන් ස්ථාපනය කිරීම මගින් දැනට ඇති ආයතනික ව්‍යුහය ගන්වීමක් කළ යුතු වේ. සහ අපද්‍රව්‍ය කළමනාකරණ උපාය මාර්ග ජාතික මට්ටමින් ක්‍රියාත්මක කිරීම සඳහා ජාතික සම්බන්ධීකරණ කමිටුවක් පිහිටුවිය යුතුය. පළාත් සහ හා පළාත් පාලන අමාත්‍යාංශයේ ලේකම් ද පරිසර අමාත්‍යාංශයේ ලේකම්ද මෙම කමිටුවේ සම සභාගීන්විය දැරිය යුතු වේ. සහ අපද්‍රව්‍ය කළමනාකරණ ජාතික උපාය මාර්ග ජාතික මට්ටමින් ක්‍රියාත්මක කිරීම සම්බන්ධීකරණය කිරීම හා සහ අපද්‍රව්‍ය කළමනාකරණ උපාය මාර්ග දින ව්‍යාප්තව ක්‍රියාත්මක කිරීමට ඉවහල් වන ජාතික වශයෙන් ප්‍රතිපත්ති සැකසීම මෙම සම්බන්ධීකරණ කමිටුවේ වගකීම වේ. ජාතික අවශ්‍යතා අනුව, කාලානුරූපව, උපාය මාර්ග සමාලෝචනය කිරීම සහ අවශ්‍ය පරිදි ප්‍රතිපත්ති වෙනස් කිරීම මෙම කමිටුව මගින් කරනු ඇත. රාජ්‍ය අංශය, පෞද්ගලික අංශය, ව්‍යාපාරික පුරාව, සහ ජාතික, පළාත් පාලන හා ප්‍රාදේශීය මට්ටමටද ජනතා සංවිධානවල නියෝජිතයින්ගෙන් මෙම ජාතික සම්බන්ධීකරණ කමිටුව සමන්විත විය යුතු වේ. සහ අපද්‍රව්‍ය කළමනාකරණ ජාතික උපාය මාර්ග ක්‍රියාත්මක කිරීමේදී අවශ්‍ය වන උපදෙස් මාලා සම්බන්ධීකරණ කමිටුවේ මග පෙන්වීම යටතේ මධ්‍යම පරිසර අධිකාරිය විසින් පිළියෙල කළ යුතුය. ජාතික උපායමාර්ග ක්‍රියාත්මක කිරීමේ වගකීම පළාත් සහ හා පළාත් පාලන ආයතන සතු විය යුතුය. සහ අපද්‍රව්‍ය කළමනාකරණය ජාතික ප්‍රතිපත්ති රාමුව තුළ, කාලානුරූප ක්‍රියාකාරී වැඩසටහන් පළාත් පාලන ආයතනය මගින් පිළියෙල කළ යුතුය. ජාතික උපාය මාර්ග දින ව්‍යාප්තව ක්‍රියාත්මක කිරීම සහතික කිරීම සඳහා පළාත් සහ සහ පළාත් පාලන ආයතන මට්ටමටද සම්බන්ධීකරණ කමිටුව පිහිටුවිය යුතු වේ.

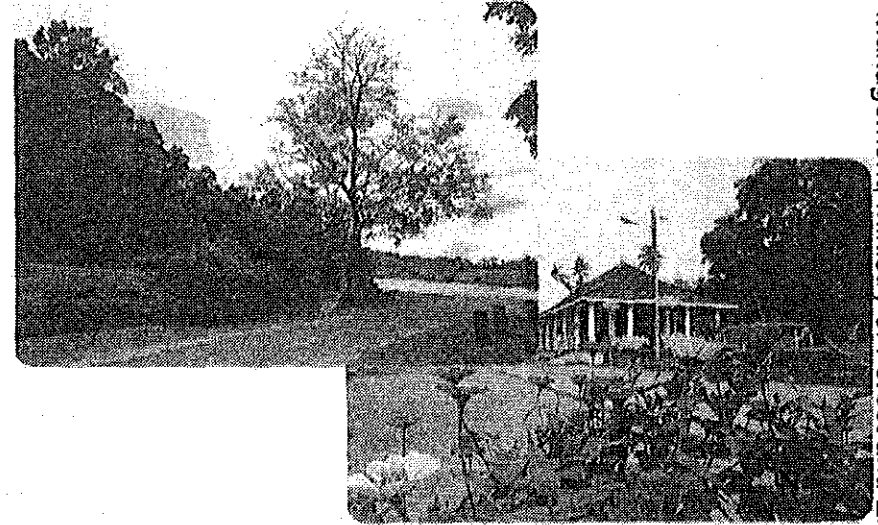
16. අධ්‍යාපනය හා දැනුවත් කිරීම.

සහ අපද්‍රව්‍ය කළමනාකරණය සඳහා ජාතික උපායමාර්ගය කිසි පරිදි ක්‍රියාත්මක කිරීම සහතික වීම සඳහා, ඒ පිළිබඳව ජාතික, පළාත් සහ සහ පළාත් පාලන ආයතන මට්ටමින් අධ්‍යාපනයක් ලබාදීම හා දැනුවත් කිරීම අත්‍යවශ්‍ය වේ.

පාසල්, පුරා සංවිධාන, විශ්ව විද්‍යාල, තාක්ෂණ සමිති, ව්‍යාපාරික පුරාව සහ පළාත් පාලන ආයතන මගින් අධ්‍යාපනය ලබාදීමේ හා දැනුවත් කිරීමේ වැඩ සටහන් ක්‍රියාත්මක කළ යුතුය. මේ තුළින් සහ අපද්‍රව්‍ය ජනනය වීම අඩු කිරීම, නැවත භාවිතා කිරීම, ප්‍රතිචක්‍රීකරණය, නිවේසිටලදීම අපද්‍රව්‍ය හෝ වෙන් කිරීම සහ පරිසරයට හානිදායක නොවන ලෙස අපද්‍රව්‍ය බැහැර කිරීම ආදිය සඳහා අදාළ ආයතන හා පුද්ගලයින් දිරිමත් කිරීම කළ යුතුය. නිරන්තර වන සහ අපද්‍රව්‍ය කළමනාකරණයක් රට භූමි ක්‍රියාත්මක කිරීම සඳහා දැනුවත් කිරීමේ සහ අධ්‍යාපනය ලබා දීමේ වැඩ සටහන් අඛණ්ඩව ක්‍රියාත්මක කළ යුතු වේ.



திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயம்



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உதவியுடன் அச்சிடப்பட்டது

சுற்றாடல் இயற்கை வளங்கள் அமைச்சு
சமயதபாய 82, தருமலவகத் வீதி, பததரமுலல

திண்மக்கழிவு முகாமைத்துவத்துக்கான
தேசிய உபாயம்

ஆகஸ்ட், 1999
வனவள மற்றும் சுற்றாடல் அமைச்சு.
82. "சம்பத்பாய" ரஜமல்வத்த விதி. பத்தரமுல்ல.

கௌரவ வனவளங்கள் மற்றும் சுற்றாடல்
அமைச்சரின் செய்தி

இலங்கையில் முறையான முகாமைத்துவமும் கழிவுகற்றல் நடவடிக்கைகளும் இல்லாமையால் திண்மக்கழிவு ஒரு வளர்ந்து கொண்டிருக்கின்ற பிரச்சினையாக உருவாகியுள்ளது. இன்றைய கழிவுகற்றல் நடைமுறைகளுடன் தொடர்புபட்ட சுற்றாடல், சமூக மற்றும் பொருளாதாரப் பிரச்சினைகளைக் குறைக்க, திண்மக் கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயம் ஓர் அத்தியாவசியமான தேவையாகும்.

இத் தேவைப்பாட்டைப் பூர்த்தி செய்வதற்கு வனவளங்கள் மற்றும் சுற்றாடல் அமைச்சு தொடர்புபட்ட ஏனைய முகவரகங்களின் கூட்டு முயற்சியுடன் திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயமொன்றை அபிவிருத்தி செய்துள்ளது. இந்த உபாயமானது, உற்பத்தியில் இருந்து இறுதிக் கழிவுகற்றல் வரையிலான விரிந்த கழிவு முகாமைத்துவக் கொள்கையின் அடிப்படையில் அமைந்துள்ளது. இந்த தேசிய உபாயமானது, கழிவு தவிர்ப்பு/குறைப்பு, மீள்பாவனை, மீள்சுழற்சி மற்றும் அவற்றின் பின்னர் சுற்றாடலுக்கு ஏற்ற வகையில் மீதிக் கழிவுகளை இறுதியாக அகற்றல் என்பவற்றை உள்ளடக்குகின்றது.

இத் தேசிய உபாயத்தை அமைச்சரவை அங்கீகரித்துள்ளது. இந்த உபாயத்தை அமுல்படுத்துவதில் மத்திய அரசாங்கம், மாநகரசபைகள், உள்ளூராட்சி அதிகாரசபைகள், தனியார் துறை, அரசு சார்பற்ற நிறுவனங்கள் மற்றும் பொதுமக்கள் ஆகியோரின் பாத்திரத்தை இது விளக்கமாகக் குறிப்பிடுகின்றது.

இந்த உபாயத்தை அபிவிருத்தி செய்து உருவாக்கும் பணியில் அர்ப்பணிப்புடனும் கடமைப்பாடுடனும் சம்பந்தப்பட்ட ஏனைய முகவரகங்களுக்கும் எனது மனமார்ந்த நன்றியை இச்சந்தர்ப்பத்தில் தெரிவிக்க விரும்புகிறேன்.

அமுலாக்கல் திட்டத்தில் விளக்கப்பட்டுள்ள உபாயமானது, திண்மக்கழிவுகளுடன் தொடர்புபட்ட பிரச்சினைகளுக்கு சம்பந்தப்பட்ட அனைத்துத் தரப்பினரும் ஒரு நிலைத்து நிற்கக் கூடிய தீர்வொன்றை அடைவதற்கு உதவும்.

நாளைய பொழுதில் ஒரு தூய சுற்றாடலை உருவாக்கும் முயற்சியில் அனைத்துத் தரப்பினர்தும் ஆதரவையும் ஒத்துழைப்பையும் எதிர்பார்க்கின்றேன்.

மகிந்த விஜேசேகர.

வனவளங்கள் மற்றும் சுற்றாடல் அமைச்சர்

கௌரவ வனவளங்கள் மற்றும் சுற்றாடல்
பிரதி அமைச்சரின் செய்தி

எமது அமைச்சு சம்பந்தப்பட்ட ஏனைய முகவரகங்களின் ஒத்துழைப்புடன் அபிவிருத்தி செய்துள்ள திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயத்தை அறிமுகப்படுத்தும் நிகழ்வில் பங்கு கொள்ளக் கிடைத்தமையிட்டு மகிழ்ச்சி அடைகின்றேன். இந்த நாடளாவிய பிரச்சினையை ஒர் ஒழுங்கு முறையின் அடிப்படையில் அணுகியுள்ளமை உண்மையிலேயே திருப்தியை அளிக்கின்றது.

பொருத்தமான கழிவு சேகரிப்பு முறைகள் இல்லாமையும் சுற்றாடல் ரீதியாக இலகுவில் பாதிக்கப்படக் கூடியவையான ஆற்று மேடைகள், சதுப்பு நிலங்கள் போன்ற இடங்களில் திட்டமிடப்படாத இறுதிக் கழிவுகற்றல் நிகழ்வதும் மற்றும் இன்றைய சமூக, பொருளாதார நடவடிக்கைகளும் திண்மக் கழிவுப் பிரச்சினையில் பங்களிப்புச் செய்கின்றன. பொருத்தமான மீள்பாவனை மற்றும் மீள்கழற்சி நடைமுறைகளைக் கைக்கொள்ளாமையால் இந்தப் பிரச்சினை மேலும் நெருக்கடி அடைந்துள்ளது.

தேசிய உபாயத்தையும் செயற்றிட்டத்தையும் அமுல்படுத்துவதில் நாம் விசேட கவனஞ் செலுத்த வேண்டும். இந்த உபாய விதியின்படி, தேசிய, மாகாண மற்றும் உள்ளராட்சி அதிகாரசபை மட்டத்தில் ஒன்றிணைந்த திண்மக்கழிவு முகாமைத்துவத் திட்டங்கள் தயாரிக்கப்பட்டு அமுல்படுத்தப்பட வேண்டியுள்ளது. ஒன்றிணைந்த திண்மக்கழிவு முகாமைத்துவத் திட்டங்களின் அமுல்படுத்தலானது நமது நாட்டின் பெளதிகச் சுற்றாடலின் முன்னேற்றத்திற்கும் நமது மக்களின் வாழ்க்கைத் தரத்தை உயர்த்துவதற்கும் உதவும் என்பதில் எனக்கு எவ்வித சந்தேகமுமில்லை.

இப் பணியில் எமது மக்களின் அனைத்துத் தரப்பினரதும் ஒத்துழைப்பை வேண்டுகின்றேன்.

முனிதாஸ மிரேமசந்திர,
வனவளங்கள் மற்றும் சுற்றாடல் பிரதி அமைச்சர்

வனவளங்கள் மற்றும் சுற்றாடல் அமைச்சர்
செயலாளரின் செய்தி

திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயத்தை ஆரம்பித்து வைக்கும் வைபவத்தில் இச் செய்தியை விடுப்பதில் பெருமகிழ்ச்சி அடைகின்றேன். இந்த உபாயமானது சுமார் மூன்று வருட காலமாக மேற்கொள்ளப்பட்ட பல்வேறுபட்ட கலந்துரையாடல்கள், முன்னோடிக் கருத்திட்டங்கள் வாயிலாகப் பெறப்பட்ட வெளிப்பாடாகும்.

இந்த உபாயத்தை அபிவிருத்தி செய்வதில் ஒத்துழைப்பு நல்கிய மாகாண சபைகள் மற்றும் உள்ளூராட்சி அமைச்சையும் மாகாண சபைகளையும் மற்றும் ஏனைய அனைத்து நிறுவனங்களையும் நான் பாராட்டுகின்றேன்.

இந்த உபாயத்தை அமுல்படுத்துவதில் மாகாண சபைகளும் உள்ளூராட்சி அதிகார சபைகளும் தலைமைத்துவப் பாத்திரத்தை வகிக்க வேண்டியுள்ளது. அனைத்து பங்குதாரர்களும் ஒன்றிணைந்து இந்த உபாயத்தின் அடிப்படையில் திண்மக்கழிவு முகாமைத்துவத்துக்கான ஒருங்கிணைந்த திட்டங்களை வகுக்க வேண்டும்.

மத்திய அரசாங்கம், மாகாண சபைகள், உள்ளூராட்சி அதிகார சபைகள், தனியார் துறை, அரசு சார்பற்ற நிறுவனங்கள் மற்றும் பொதுமக்கள் ஆகியோரிடம் ஒத்துழைப்புடன் உள்ளூராட்சி அதிகார சபைகள் தாம் உருவாக்கும் கழிவுகளின் அளவு, வகை என்பவற்றின் அடிப்படையில் திண்மக்கழிவு முகாமைத்துவத்துக்கான ஒருங்கிணைந்த திட்டங்களை உருவாக்கவும் அமுல்படுத்தவும் நடவடிக்கைகள் எடுக்கும் என நாம் எதிர்பார்க்கின்றோம்.

கே. ஏ. எஸ். குணசேகர,
செயலாளர்.

வனவளங்கள் மற்றும் சுற்றாடல் அமைச்சர்

**திண்மக்கழிவு முகாமைத்துவத்துக்கான
தேசிய உபாயம்**

உள்ளடக்கம்

1. முகவுரை
2. திண்மக்கழிவு என்றால் என்ன?
3. சுகாதாரத்திற்கும் சுற்றாடலிற்கும் இடையிலான தொடர்புகள்
4. திண்மக்கழிவு முகாமைத்துவம்
5. திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயம்
 - * கழிவை தவிர்த்தல் குறைத்தல்
 - * கழிவை மீள்பயன்படுத்தல்
 - * கழிவை மீள்சுழற்சிப்படுத்தல்
 - சேதனக்கழிவுகளை சுட்டுப்பசளையாக்கல் மூலம் மீள்சுழற்சிப்படுத்தல்
 - கண்ணாடிப் பொருட்களின் கழிவை மீள்சுழற்சிப்படுத்தல்
 - கடதாசிக் கழிவை மீள்சுழற்சிப்படுத்தல்
 - * இறுதிக் கழிவுகற்றல்
 - சுகாதார நல நில நிரப்பல்
 - பூரண எரிதல்
 - * சக்தியை மீள்பெறுதல்
 - * உயிர்வாயு பாவனை
6. "முதல்" களில் இருந்து கழிவுகளை வகைப்படுத்தல்
7. ஒன்றிணைந்த திண்மக்கழிவு முகாமைத்துவ உபாயம்
8. சட்டவாக்கம்
 - * உள்ளூராட்சி சட்ட ஏற்பாடுகள்
 - * தேசிய சுற்றாடல் சட்டத்தின் கீழான ஏற்பாடுகள்
 - * சுற்றாடல் தாக்க மதிப்பீடு (ஈ.ஐ. ஏ)
9. ஊக்குவிப்பு முயற்சிகளும் நிறைவேற்றலும்
10. ஆராய்ச்சியும் அபிவிருத்தியும்
11. தனியார் துறைப் பங்களிப்பு
12. சமூகப் பங்களிப்பு
13. அரசாங்கத்தின் பாத்திரம்
14. திண்மக்கழிவு முகாமைத்துவத்தில் பல்துறைசார் பங்களிப்பும் பரஸ்பர எதிர் விளைவுகளுக்கான தேவையும்.
15. தேசிய திண்மக்கழிவு முகாமைத்துவ உபாயத்தை அமுல்படுத்துவதற்கான தாபன பொறிமுறை
16. சுல்வியும் விழிப்புணர்வை உருவாக்கலும்.

திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயம்

1. முகவுரை

இலங்கையில் பொருத்தமான முகாமைத்துவ முறைமைகள் இல்லாத காரணத்தினால் திண்மக்கழிவு ஒரு வளர்ந்து கொண்டிருக்கின்ற பிரச்சினையாக உள்ளது. இன்றைய இறுதிக் கழிவுகளும் செயற்பாடுகளுடன் சம்பந்தப்பட்ட சுற்றாடல், சமூக, பொருளாதார பிரச்சினைகளைக் குறைக்கும் பொருட்டு திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயத்தை அபிவிருத்தி செய்வதும் அமுல்படுத்துவதும் அத்தியாவசியமாக உள்ளது. கடந்த காலத்தில், திண்மக் கழிவு முகாமைத்துவத்தில் மிகக் குறைந்த கவனம் அல்லது கவனம் செலுத்தப்படாமலேயே இறுதிக் கழிவுகளும் முறையில் கூடிய கவனம் எடுக்கப்பட்டுள்ளது. உத்தேச உபாயம் ஆனது, கழிவு உற்பத்தி ஆரம்பம் முதல் இறுதிக் கழிவுகற்றல் வரைக்குமான கழிவு முகாமைத்துவக் கொள்கையின் அடிப்படையில் அமைந்துள்ளது.

தற்போதைய திண்மக் கழிவுடன் தொடர்புபட்ட உண்மையான பிரச்சினை பெருமளவில் கழிவு உற்பத்தி வீதத்தை விட தற்போதைய ஒழுங்கற்ற வெளியேற்றல் நடைமுறைகளிலேயே தங்கியுள்ளது என திண்மக் கழிவு சம்பந்தமான சமீபத்திய தரவுப் பகுப்பாய்வுகள் வெளிப்படுத்துகின்றன. எனினும் சனத்தொகை அதிகரிப்பு, தொழில்நுட்ப அபிவிருத்தி மற்றும் மக்களின் வாழ்க்கை முறை மாற்றம் காரணமாக திண்மக்கழிவு உற்பத்தி வீதம் அதிகரிக்கின்றது. எனவே கழிவு தவிர்ப்பு/குறைப்பு, மீள்பாவனையும் மீள்கழற்சியும், மற்றும் அவற்றின் பின்னரான சுற்றாடலுக்குச் சாதகமான இறுதிக் கழிவுகற்றல் போன்ற திண்மக்கழிவு முகாமைத்துவ நடைமுறைகளை ஊக்குவிப்பதற்கான கொள்கைகள் வகுக்கப்பட வேண்டும். இக் கொள்கைகள் பொருளாதாரம், கைத்தொழில் மற்றும் நகரத் திட்டமிடற் கொள்கைகளுக்கும் பரஸ்பர ஒத்துழைப்பு நல்கக் கூடியனவாக அமைய வேண்டும்.

2. திண்மக் கழிவு என்றால் என்ன?

வீடுகள், விவாயார வர்த்தக, கைத்தொழில் மற்றும் விவசாய செயற்பாடுகளால் மட்டுமன்றி பொதுத் துறைகளாலும் வெளியேற்றப்படுகின்ற திரவமல்லாத கழிவு திண்மக்கழிவு என வரையறுக்கப்படுகிறது. திண்மக் கழிவு ஆனது உணவுக்கழிவு, தேவையற்ற துணிகள், தோட்டக்கழிவு, கட்டட நிருமாணக் கழிவு, தொழிற்சாலைக் கழிவு, கடதாசி, உலோகங்கள், பிளாஸ்டிக், கண்ணாடி முதலான பொதி செய்வதனால் உண்டாகும் கழிவு போன்ற பல்வேறுபட்ட வித்தியாசமான பொருட்களை உள்ளடக்குகிறது.

3. சுகாதாரத்திற்கும் சுற்றாடலிற்கும் இடையிலான தொடர்புகள்

திண்மக் கழிவின் முறையற்ற முகாமைத்துவமும் ஒழுங்கற்ற கழிவுகற்றலும் சுகாதார மற்றும் சுற்றாடற் பிரச்சினைகளுக்கு வழி கோலுகின்றன. பொதுமக்களின் கவனத்திற்குட்பட்ட மிகத் தெளிவான சுற்றாடற் பிரச்சினை இயற்கையழகுக் காட்சிகள் சிதைவடைதலாகும். ஆயினும், கட்டுப்பாடின்றி திறந்த வெளியில் குவிக்கப்படும் திண்மக் கழிவுகளிலிருந்து கசிகின்ற கழிவு நீரானது மேற்பரப்பு மற்றும் நிலக்கீழ் நீரினை மாசுபடுத்துவதனால் புலப்படக் கூடிய, புலப்படாத மற்றும் மீள்பெற முடியாத பாரிய சுற்றாடல் அழிவுகளை ஏற்படுத்துகின்றன. கழிவானது திறந்த வெளியில் அல்லது கட்டுப்பாட்டு முறைமைகள் போதுமானளவு இல்லாத நிலையங்களில் திறன்ற வகையில் எரிக்கப்படும் பொழுது வளி மாசடைதலும் நிகழக் கூடியதாகவுள்ளது. தற்போதைய ஒழுங்கற்ற திண்மக்கழிவு கழிவுகற்றல் செயற்பாடுகள் ஓர் எதிர்மறையான தோற்றத்தை நாட்டிற்கு ஏற்படுத்துவதால் உல்லாசத்துறை உட்பட கைத்தொழில் அபிவிருத்திக்கான வாய்ப்புகள் தடுக்கப்படுகின்றன.

4. திண்மக்கழிவு முகாமைத்துவம்

திண்மக் கழிவு முகாமைப்படுத்தலானது, உற்பத்தி, களஞ்சியப்படுத்தல், சேகரிப்பு, இடமாற்றம் மற்றும் போக்குவரத்து, போன்றவற்றுடன் சம்பந்தப்பட்ட சுற்றாடலுக்கு இயைந்த வகையில் திண்மக் கழிவுகளைக் கழிவுகற்றும் முகாமைத்துவச் செயற்பாடுகளைக் கூட்டிணைக்கின்றது. இது திட்டமிடல், ஒழுங்கமைத்தல் நிருவாகம், நிதி, சட்டம் மற்றும் பொறியியல் காரணிகள் சம்பந்தப்படும் ஒழுங்குமுறை உறவுமுறைகளை உள்ளடக்குகின்றது.

5. திண்மக் கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயம்.

திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயம் ஆனது சுற்றாடலிற்கு சாதகமான முறையில் கழிவைத் தவிர்த்தல், குறைத்தல், மீள்பயன்படுத்தல், மீள்கழற்சிப்படுத்தல், இறுதிக் கழிவுகற்றல் என்பவற்றுடன் சம்பந்தப்பட்டதாக அமைத்தல் வேண்டும்.

• கழிவைத் தவிர்த்தல்/குறைத்தல்

உற்பத்தி, நுகர்வு வழிமுறையில் கழிவு உருவாகுதல் தவிர்த்த முடியாததாகும். எனினும் நல்ல பேணுதற் செயற்பாடுகளினால் தற்போதுள்ள கழிவு உருவாக்கத்தை குறிப்பிடத்தக்க அளவிற்குக் குறைக்க முடியும் என்ற விழிப்புணர்விற்கூடாகவும்

கல்வி முறைகளிற்கூடாகவும் உற்பத்தியாளர்களையும் நுகர்வோரையும் ஊக்குவிப்பதன் மூலம் கழிவுகளைக் குறைப்பதற்கான இலக்கை தேசிய கொள்கைகள் கொண்டிருக்க வேண்டும்.

மேலதிகமாக பொதி செய்யப்பயன்படுத்தப்படும் உறைகள் திண்மக்கழிவு உருவாதலைத் தூரிதமாக அதிகரிக்கச் செய்கின்றன. நுகர்வோர் "முதல்" இல் இருந்து கழிவுகற்றலின் போது ஏற்படும் பிரச்சினைகளையும் இறுதியான கழிவுகற்றலின் போது ஏற்படும் சொந்தமான பிரச்சினைகளையும் கருத்திற் கொண்டு நுகர்வோரினால் இப்படியான பொதி முறைமைகளின் கிராக்கியைக் குறைத்துக் கொள்வதன் மூலம் இத்தகைய கழிவுகள் உருவாகாதவை கணிசமான அளவிற்குக் குறைக்க முடியும். அத்துடன் சேதனமாற்றத்திற்குட்படக் கூடியதான பொதி செய்யப்பயன்படும் உறைகளை சாத்தியமானவை பயன்படுத்த நுகர்வோர் ஊக்குவிக்கப்பட வேண்டும். சுற்றாடலிற்கு நட்பான கழிவுகற்றலிற்கு உதவும் பொருட்டு, தேவையற்ற பொதிசெய்யும் உறைகளைக் குறைப்பதற்கு உற்பத்தியாளர்கள் ஊக்குவிக்கப்பட வேண்டும். இது மீள அவர்களுடைய உற்பத்திச் செலவையும் குறைக்கும்.

பழங்கள், மரக்கறிகள் மற்றும் ஏனைய இலகுவில் பழுதடையக்கூடிய பொருட்கள் முதலானவற்றின் பொருத்தமற்ற வகையிலான போக்குவரத்து, கையாளலை மற்றும் களஞ்சியப்படுத்தல் காரணமாக நகர்ப்பகுதிகளில் திண்மக் கழிவுகளின் உற்பத்தி தற்போது உயர்மட்டத்திலுள்ளது. இலகுவில் பழுதடையக்கூடிய இத்தகைய பொருட்கள் சந்தைப்படுத்தும் இடங்களில் ஒரு கணிசமான தொகை கழிவாக மாறுவதற்கு அவற்றின் பொருத்தமற்ற கையாளல் முறையும் தற்போதைய பொதிசெய்யும் அமைப்புமுறையுமே காரணமாகும். இத்தகைய கழிவுகளின் உற்பத்தியைத் தவிர்ப்பதற்கு/குறைப்பதற்கு பொருத்தமான தொழில் நுட்ப உதவியுடன் அறுவடைக்குப் பின்னரான சந்தைப்படுத்தல் வழிமுறை அபிவிருத்தி செய்யப்பட வேண்டும்.

அத்துடன் உபாயம் ஆனது, பிரதானமாகப் பொதிசெய்யும் துறையில் உருவாகின்ற பிளாஸ்டிக் கழிவுகளைக் குறைப்பதற்கான சாத்தியத்தை நோக்க வேண்டும். பிளாஸ்டிக் பொருட்கள் சேதனத்தன்மைகள் கொண்டவை அல்ல. இவை குறிப்பிட்டுக் கூற முடியாத காலத்திற்கு சூழலில் கழிவாகவே இருக்கும். பொலித்தீன், பிளாஸ்டிக் கழிவுகளின் ஒழுங்கற்ற வெளியாக்கம் தற்போது இலங்கையில் பாரதூரமான சுற்றாடல் சுகாதாரப் பிரச்சினையாக உள்ளது. பிளாஸ்டிக் கழிவுக்குரிய நன்கு

நிறுவப்பட்ட மீள்சுழற்சி முறை வசதிகள் இல்லாதவிடத்து, இப் பிரச்சினை எதிர்காலத்தில் அதிகரிக்குமாதலால் கடதாசி, கண்ணாடி, துணி மற்றும் ஏனைய சேதனமாற்றத்திற்கு உட்படக்கூடிய பொருட்கள் போன்றவற்றை உபயோகித்தல் மூலம் பிளாஸ்டிக் பாவனை இயன்றளவு தவிர்த்தல் வேண்டும்.

குறிப்பிட்ட சில உற்பத்திப் பொருட்களைப் பொதி செய்வதில் பிளாஸ்டிக் தனியான நன்மையைத் தருவதுடன் இதனுடைய பாவனை தவிர்த்தல்படுவது உண்மையிலேயே சாத்தியமில்லாததாகும். இத்தகைய சூழ்நிலைகளில் சேதன மாற்றத்திற்கு உட்படாத பிளாஸ்டிக்கிற்குப் பதிலாக சேதன மாற்றத்திற்குட்படக் கூடிய பிளாஸ்டிக்கின் பாவனை ஊக்குவிக்கப்பட வேண்டும். தற்போது சேதன மாற்றத்திற்குட்படக் கூடிய பிளாஸ்டிக் ஆனது சேதன மாற்றத்திற்குட்படாத பிளாஸ்டிக்கை விட பெறுமதி கூடியதாக இருப்பதால் போட்டியிடுவதற்கு முடியாததாக உள்ளது. இருந்தபோதிலும், வாழ்க்கைச் சக்கரப் பெறுமதியுடன் ஒப்புநோக்குகளில், பொருத்தமான ஓர் ஊக்குவிப்பு முறை அபிவிருத்தி செய்யப்பட முடியும்.

நீண்ட கால பாவனைப் பொருட்களின் உற்பத்திக்கும் எறியப்படும் பொதி உறைகளுக்குப் பதிலாக பல்வகை பயன்பாடுடைய பொதி உறை உபயோகிப்பிற்கும் முன்னுரிமை வழங்கப்படவேண்டும். வீட்டுப்பாவனையாளர்கள் அவர்களாகவே கழிவைத் தவிர்ப்பதற்கு சேதனக்கழிவுகளை கூட்டுப் பசனையாக்குதலில் பங்கு கொள்ளும் பொழுது, பிரதான சேகரிப்பிலும் கழிவுகற்றல் செயற்பாட்டிலும் கழிவுப் பொருட்கள் உட்புகாமல் கழிவைத் தவிர்த்தல் நிகழ்கிறது.

உற்பத்திச் செயல்முறையில் மீதப்படும் பொருட்களை மீள்பாவித்தல் போன்ற முடியுமாய் வாழ்க்கைச் சக்கர செயல் முறைகளை உருவாக்குவதன் மூலம் உற்பத்தியாளர்களும் கழிவைத் தவிர்த்தல் முடியும்.

கழிவை மீள்பயன்படுத்தல்

கழிவை மீள்பயன்படுத்தல் கழிவைக் குறைப்பதற்கு உதவுகிறது. ஒரு பொருள் மேலும் பாவிக்க முடியாது என்ற நிலையில் இருக்கும் பொழுது அது கழிவாகிறது. ஆகவே, நுகர்வோர் பொருட்களை முதல் தடவை விரும்பத்திற்கு அமையப் பயன்படுத்திய பின் அப்பொருட்களை ஏனைய நோக்கங்களிற்காக

மீள்ப் பயன்படுத்துவதற்கு ஊக்குவிக்கப்பட வேண்டும். இது சுற்றாடலிற்கு சாதகமாக அமைவது சாத்தியமானால் முதல் தடவையிலேயே கழிவுகற்றல் தேவையில்லை.

• கழிவை மீள்சுழற்சிப்படுத்தல்

கழிவை மீள்சுழற்சிப்படுத்தலானது ஒரு குறிப்பிடத்தக்க அளவிற்குக் கழிவின் அளவைக் குறைப்பதனாலும் மீள்பயன் படுத்துவதினாலும் இறுதிக் கழிவுகற்றலைக் கட்டுப்பாட்டினுள் வைத்திருப்பதற்கு உதவுகிறது. மீள்சுழற்சியைப் பொருளாதார ரீதியாக நடைமுறைப்படுத்தும் பொருட்டு பேண்தகு கழிவு சேகரிக்கும் முறைமைகள் ஸ்தாபிக்கப்பட வேண்டும்.

• கூட்டுப்பயசளை

பகுப்பாய்வுகளிலிருந்து பெறப்பட்ட தரவுகளின்படி இலங்கையில் பெரும்பாலான திண்மக்கழிவுகள் சேதனக் கழிவுகளைக் கொண்டுள்ளன எனவும் இவை கூட்டுப் பசளை உருவாக்கலுக்குப் பொருத்தமானவை எனவும் அறியக் கூடியதாகவுள்ளது. இலங்கையில் உள்ள கழிவுப் பொருட்களில் நீரின் அளவு அதிகமாகக் காணப்படுவதால் அவற்றிற்கு பூரண எரிதல் முறையினைக் கையாளல் பொருளாதார ரீதியாக நடைமுறைப்படுத்த முடியாததொன்று. ஆதலால் சேதனக் கழிவுகளை கூட்டுப் பசளையாக்குவது சாத்தியமான ஒரு தெரிவாக இருக்கும். இந்தத் தெரிவு செய்தலிற்கு உள்ளூராட்சி அதிகார சபைகள் கூடியளவு கவனஞ் செலுத்த வேண்டும். இரசாயன வளமாக்கிகளின் உயர்விலையையும் கூடிய அறுவடையைப் பெறும் நோக்கத்துடன் அளவுக்கதிகமாக இரசாயன வளமாக்கிகளை உபயோகிப்பது சம்பந்தப்பட்ட சுகாதாரப் பிரச்சினைகளையும் கருத்திற் கொண்டு இவற்றிற்குப் பதிலாக சேதனக் கழிவுகளிலிருந்து உற்பத்தி செய்யப்படும் கூட்டுப் பசளைகளை உபயோகித்து மண்ணை வளமாக்குவதற்கு விவசாயிகள் ஊக்கப்படுத்தப்பட வேண்டும். இருந்த போதிலும், கூட்டுப்பசளையின் தரமானது, மாசுபடுத்தலின் தன்மையிலும் சேதனக் கழிவின் வகையிலும் தங்கியிருக்கும் என்பது கவனத்திற் கொள்ளப்பட வேண்டும்.

தாவரங்களும், விலங்குகளும் தங்களுடைய தொகுதியினுள் பார உலோகங்களை உள்வாங்கும் தன்மையைக் கொண்டிருப்பதால், உணவுச் சங்கிலியில் இது கணிசமான ஆபத்தை உருவாக்கும். ஆதலால் இலங்கை பார உலோகக் கூட்டுப்பசளைக்கான தரங்களை கொண்டிருக்க வேண்டும் "முதரல்" இல் இருக்கும்

பொழுதே கழிவைப் பிரித்தெடுத்தல் நல்ல தரமான கூட்டுப் பசளையைப் பெறுவதில் ஒரு முக்கிய பங்கெடுக்கிறது.

கூட்டுப் பசளைகளுக்கான சந்தை வாய்ப்பை அதிகரிக்கும் பொருட்டு, மண்வளமாக்கியாக சேதன வளமாக்கியைப் பயன்படுத்த விவசாய நிறுவனங்களை ஊக்குவிப்பதற்குப் பொருத்தமான அதிகாரசபைகளுக்கூடாக ஒழுங்குகள் செய்யப்பட வேண்டும்.

• கண்ணாடிப் பொருட்களின் கழிவை மீள்சுழற்சிப்படுத்தல்

தற்போது, இலங்கை கண்ணாடி கம்பனி 40% ஆன கண்ணாடிக் கழிவுகளை அதனுடைய உற்பத்திச் செய்முறையில் பயன்படுத்துகிறது. இந்தக் கம்பனி, கழிவுக் கண்ணாடிகிடைக்குமாயின் 60% வரை அதனைப் பயன்படுத்தும் வசதிகளைக் கொண்டுள்ளது. உற்பத்திச் செய்முறையில் கழிவுக் கண்ணாடியைப் பயன்படுத்தும் பொழுது உற்பத்தி செயற்பாட்டிற்கு குறைந்தளவு வெப்பநிலையே தேவைப்படுவதால் உற்பத்தி விலையைக் குறைப்பதற்கு இது உதவும். இது உபகரணங்களின் ஆயுட்காலத்தையும் அதிகரிக்கும். கண்ணாடி உற்பத்திக்குத் தேவைப்படும் மூலப் பொருட்களின் அளவும் குறையும். இயற்கை வளங்களைப் பாதுகாக்கவும் உதவியாக அமையும்.

• கடதாசிக் கழிவை மீள்சுழற்சிப்படுத்தல்

கடதாசி உற்பத்தியில் கழிவுக்கடதாசிகளைப் பயன்படுத்தும் தொழில்நுட்பம் தற்பொழுது இலங்கையில் உள்ளது. இதற்கான கழிவுக் கடதாசிகளைத் தரப்படுத்தும் உபகரணங்கள் உலக சந்தையில் கிடைக்கத்தக்கதாக உள்ளன. கடதாசி உற்பத்தி செயற்பாட்டில் கழிவுக் கடதாசிகளைப் பாவிப்பதை ஊக்குவிப்பதற்கான கொள்கைகள் அபிவிருத்தி செய்யப்பட வேண்டும்.

• இறுதிக் கழிவுகற்றல்

• சுகாதார நல நில நிரப்பல்

சுகாதார நலநில நிரப்பல் தளம் என்பது சுற்றாடலுக்கு சாதகமான முறையில் கழிவின் இறுதிக் கழிவுகற்றலிற்கு ஒழுங்கு செய்யப்பட்ட இடமாகும். தற்போது இலங்கையில் பொதுவாகக் காணப்படுகின்ற கழிவுகற்றல் செயற்பாடான திறந்த இடத்தில் குவித்தல் முறைக்கும் சுகாதார நலநில நிரப்பல் தளத்திற்கும் இடையில் தெளிவான ஒரு வித்தியாசம் உள்ளது. சுகாதார

சேதனக்கழிவுகள் தொடர்ந்தும் நிலம்நிரப்பல் மூலமே கழிவுகற்றல் செய்யப்படும். ஒரு பெரிய சுகாதார நிலம் நிரப்பலில் இருந்து வாயுவை மீள்பெறுதல் பொருளாதார ரீதியில் ஓர் உந்து விசையாக இருப்பினும், வளிமாசடைதலைக் கட்டுப்படுத்தும் முகமாக நிலம் நிரப்பலில் இருந்து வாயுவை மீள்பெறுவதற்கான உள்ளகக் கட்டமைப்பு வசதிகளை அபிவிருத்தி செய்வதற்கு ஊக்குவிப்புக் கொடுப்பனவுகள் வழங்கப்பட வேண்டும்.

• உயிர்வாயு பரவனை

உயர்சேதனத்தன்மை உடைய கழிவானது ஓட்சிசன் அற்ற நிபந்தனையின் கீழ் (அனரோபிக்) கட்டுப்பாட்டை உற்பத்தி செய்யப் பயன்படும் அதே சமயம் உயிர்வாயுவை உற்பத்தி செய்வதற்கான சக்தி முதலிற்குரிய தகுதியையும் கொண்டிருக்கும். ஆதலால், உயிர்வாயு தொழில் நுட்பப் பரவனை, உயர்சேதனத்தன்மையுடைய கழிவுகளின் கழிவுகற்றலின் ஓர் உபாயமாக உள்ளது.

6. "முதல்" களில் இருந்து கழிவுகளை வகைப்படுத்தல்.

"முதல்" களில் இருந்து கழிவுகளை வகைப்படுத்தல் ஒரு முக்கியமான செயற்பாடு ஆகும். இது கல்வி, விழிப்புணர்ச்சி யூட்டும் நிகழ்ச்சித் திட்டங்கள் போன்றவற்றினூடாக ஊக்குவிக்கப்பட வேண்டும். இந்தச் செயற்பாடு பொருளாதார ரீதியில் மீள்கழற்சியை கனிசமான அளவில் சாத்தியப்பட செய்கிறது. உற்பத்தி "முதல்" களில் இருந்தே கழிவுகளை வகைப்படுத்துவதற்கு தூண்டுதல் அளிக்கும் முகமாக உள்ளகக் கட்டமைப்பு வசதிகளை நிறுவுதல் முறைசார், முறைசார்பற்ற கழிவு சேகரிப்பு முறைகளுக்கு வாய்ப்பளிக்கும். இது நாட்டில் வேலை வாய்ப்புகளை உருவாக்குவதற்கும் உதவும்.

மீள்கழற்சியினால் பெறப்பட்ட உபஉற்பத்திப் பொருட்களுக்கான சந்தை வாய்ப்பை அதிகரிப்பதற்குக் கொள்கைகள் அபிவிருத்தி செய்யப்பட வேண்டும்.

7. ஒன்றிணைந்த திண்மக்கழிவு முகாமைத்துவ உபாயம்

ஒரு திறமையான திண்மக்கழிவு முகாமைத்துவ உபாயம் ஆனது, பொருளாதார ரீதியாக மேலுள்ள செயற்பாடுகளை ஒன்றிணைக்கும் சாத்தியத்தைக் கொண்டிருக்கும். திண்மக்கழிவு முகாமைத்துவ உபாயங்கள் கழிவுகளைக் குறைத்தல்,

மீள்பயன்படுத்தல், மீள்கழற்சி, சுற்றாடலிற்கு சாதகமான முறையில் இறுதிக் கழிவுகற்றல் போன்றவற்றுடன் இணைந்துள்ளது. இறுதிக் கழிவுகற்றல், உருவாக்கப்படுகின்ற கழிவினுடைய அளவையும் வகையையும் பொறுத்து பல உள்ளூராட்சி அதிகார சபைகள் ஒன்றிணைந்து செயற்படுவதன் மூலம் அபிவிருத்தி செய்யப்பட முடியும். இந்த உபாயத்தின் பிரதான நோக்கங்களாக அமைய வேண்டியவை:- "மீள்கழற்சி செய்வதை விட கழிவைக் குறைப்பதற்கு முன்னுரிமை வழங்கல் மற்றும் சுற்றாடலிற்கு சாதகமான ஏனைய முறைகளை விட மீள்கழற்சி முறைக்கு முன்னுரிமை வழங்கல்", "தவிர்க்க முடியாத கழிவுகளை இயலுமானவரை மீள்பயன்படுத்தல்" "பதார்த்தங்களின் ஆபத்தான தன்மையின் அளவை மிகக்குறைந்த சாத்தியமான மட்டத்தில் இருக்கத்தக்கதாகக் கழிவைப் பராமரித்தல்", "மனித வாழ்க்கைக்கு அடிப்படையான ஆரம்பத் தேவைப்பாடாக கழிவைச் சுத்தப்படுத்தும் செயற்பாட்டையும் இறுதிக் கழிவுகற்றும் செயற்பாட்டையும் சுற்றாடலிற்கு சாதகமான முறையில் செய்வதை உறுதிப்படுத்தல்".

8. சட்டவாக்கம்

• உள்ளூராட்சி சட்ட ஏற்பாடுகள்

திண்மக்கழிவு முகாமைத்துவத்திற்கு அவசியமான சட்டவமைப்பு போதுமான வகையில் உள்ளூராட்சி சட்டங்களின் கீழ் வழங்கப்பட்டுள்ளதுடன் நாட்டின் திண்மக்கழிவுகளை சேகரிக்கவும், இறுதிக் கழிவுகற்றல் செய்யவும் உள்ளூராட்சி சபைகள் பொறுப்புடையனவாக இருக்கின்றன. குறிப்பிட்ட பிரதேசங்களின் திண்மக்கழிவு முகாமைத்துவம், இறுதிக் கழிவுகற்றல் செயற்பாடு என்பன பற்றி மாநகரசபை கட்டளைச் சட்டத்தின் 129, 130, 131 ஆம் பிரிவுகள் நகரசபை கட்டளைச் சட்டத்தின் 118, 119, 120 ஆம் பிரிவுகள், பிரதேசசபைச் சட்டத்தின் 93, 94 ஆம் பிரிவுகள் ஆகியன தெளிவானதும் போதுமானதும் விளக்கத்தைத் தந்துள்ளன.

திண்மக் கழிவு முகாமைத்துவம் தொடர்பாக பிரதேசசபைச் சட்டம், நகர சபைக்கட்டளைச்சட்டம் மற்றும் மாநகர சபைக்கட்டளைச்சட்டம் முதலானவற்றின் ஏற்பாடுகள் பின்வருமாறு:

அ. இப்பாகத்தின் ஏற்பாடுகளின் கீழ் ஏதேனும் பிரதேச சபையினால் சேகரிக்கப்பட்ட எல்லாத் தெருக்குப்பையும் வீட்டுக்குப்பையும் மலமும் அல்லது இதையொத்த வேறு கழிவுப்பொருளும் பிர

D.1-97

தேச சபைக்குச் சொந்தமாக இருத்தல் வேண்டும் என்பதுடன் பிரதேச சபையானது அத்தகைய எல்லாக் கழிவுப் பொருளையும் விற்பதற்கு இல்லது அழித்தொழித்து விடுவதற்கு முழுத்தத்துவமும் உடையதாகத் வேண்டும்.

ஆ. சட்ட நடவடிக்கைகளுக்கமைய அகற்றப்படும் எல்லாத் தெருக்குப்பைகள், வீட்டுக் குப்பைகள், மலம் மற்றும் இதையொத்த வேறு கழிவுப்பொருட்கள் முதலானவற்றை தகுந்த முறையில் அழித்தொழித்து விடுவதற்கு வசதியான இடங்களை காலத்திற்குக் காலம் வழங்குதல், இந்த நோக்கத்திற்குத் தேவையான எல்லா வாகனங்கள், மிருகங்கள், உபகரணங்கள் மற்றும் ஏனைய பொருட்களை வைத்திருத்தல். அகற்றப்படுகின்ற குப்பைகள், மலம் மற்றும் இதையொத்த வேறு கழிவுப்பொருட்கள் முதலானவை சட்ட நடவடிக்கைகளுக்கமைய தீங்கிழைக்காத வண்ணம் அழித்தொழிக்கப்படுகின்றன என்பதை உறுதிசெய்வதற்குத் தேவையான அளவீடுகளையும் முற்பாதுகாப்பு நடவடிக்கை - களையும் எடுத்தல் ஆகியன ஒவ்வொரு பிரதேச சபையினதும் நகர சபையினதும், மாநகர சபையினதும் கடமையாதல் வேண்டும்.

- தேசிய சூழற் சட்டத்தின் கீழமைந்த ஏற்பாடுகள்
- தேசிய சூழற்சட்டத்தின் 12 ஆம் பிரிவின் கீழ் மத்திய சுற்றாடல் அதிகார சபையானது, அமைச்சரின் சம்மதத்துடன், உள்ளூராட்சி சபையொன்றின் உள்ளூர் எல்லைக்குள் காலத்திற்கேற்றவாறு சுற்றாடலைப் பாதுகாப்பதற்கு அவசியமெனக் கருதும் விசேட தன்மையினதான அல்லது பொதுத்தன்மையினதான செயல் எதனையும் செய்யும்படி கேட்கும் பணிப்புரையைக் காலத்திற்குக் காலம் உள்ளூராட்சி சபை எதற்கும் வழங்கலாம்.

உபவிதி (1) இன் கீழ் பணிப்புரை விடுக்கப்பட்ட உள்ளூராட்சி சபை ஒன்று அதற்கு இணங்கி நடத்தல் வேண்டும்.

- தேசிய சூழற் சட்டத்தின் 23 அ பிரிவின் கீழ், கசெற்றில் வெளியிடப்படும் கட்டளை மூலம் அமைச்சரினால் நியமிக்கப்படக்கூடியவாறான இதற்குப்பின்னர் இயைபான தேதி எனக் குறிப்பீடு செய்யப்படும்) அத்தகைய தேதியிலிருந்து ஆள் எவரும்.

(அ) அதிகார சபையினால் வழங்கப்பட்ட உரிமமொன்றின் அதிகாரத்தின் கீழன்றி, அத்துடன்

(ஆ) இச்சட்டத்தின் கீழ் விதித்துரைக்கப்படக் கூடியவாறான அத்தகைய நியமனங்களுக்கும் வேறு கட்டளைகளுக்கும் இணங்கவன்றி, சூழலின் தீழ் ப்பை ஏற்படுத்துவதற்கான கழிவை வெளியேற்றாதலோ படியவைத்தலோ வெளிவிடுதலோ ஆகாது.

"கழிவு" என விபரிக்கப்பட்ட பொருட்களையும் மற்றும் ஏதேனும் பொருள் அது திரவமாயினாலும்கூட திண்மமாயினாலும்கூட அல்லது வாயுவாயினாலும்கூட அல்லது கதிர் இயக்கம் சார்ந்ததாயினாலும்கூட சரி சூழலினுள் வெளியேறுகையில், வெளிவிடப்படுகையில் அல்லது படியவைத்தலின் போது சூழலில் மாற்றத்தை உண்டாக்கத்தக்க பொருட்களையும் உள்ளடக்கும்.

- சுற்றாடற் தாக்க மதிப்பீடு
- நானொன்றுக்கு 100 தொன்களுக்கு மேற்பட்ட கொள்ளளவு உடைய நில நிரப்பும் தளங்கள், சுற்றாடற் தாக்க மதிப்பீட்டு ஒழுங்கு விதிகளின் கீழ் (இல. 773/2- ஜூன் 1993) சுற்றாடற் தாக்க மதிப்பீட்டிற்கு உட்படுதலை தேசிய சுற்றாடற் சட்டம் வேண்டுகிறது. நாடளாவிய ரீதியில் திண்மக் கழிவுகற்றலுக்குரிய இடங்களாக அபிவிருத்தி செய்யப்படக்கூடிய தகுதி வாய்ந்த இடங்கள் இனங்காணப்பட வேண்டும். சட்டத்தின் வேண்டுகலின் கீழ், ஆரம்ப சூழல் பரிசோதனை அல்லது சுற்றாடல் தாக்க மதிப்பீடு கற்கைநெறிகளுக்கு உட்படுத்தப்பட்ட பின்னர் தேவையான விளக்கங்கள் பெறப்பட வேண்டும்.

எனினும், எல்லா மாநகர திண்மக்கழிவு கழிவுகற்றலுக்கான இடங்களும் சுற்றாடல் தாக்க மதிப்பீடு அல்லது ஆரம்ப சுற்றாடல் பரிசோதனைக்கு உட்படுவதற்கு தற்போதைய ஒழுங்குவிதிகள் மாற்றப்படவேண்டும். பெரும்பாலான கைத்தொழில் வெளியேற்றுவதற்கான விட திண்மக் கழிவிருந்து கசிகின்ற திரவம் மிக அதிகமாக மாசுபடுத்தும் தன்மை உடையதாக இருப்பதனால், நிலம் நிரப்பும் இடங்கள் தொழிற்படலிற்கு சுற்றாடல்பாதுகாப்பு உரிமம் அவசியமாகும்.

9. ஊக்குவிப்புகளும் சட்ட நிறைவேற்றலும்

தற்போது உள்ளூராட்சி சபைகளிடம் கிடைக்கத்தக்கதாகவுள்ள வளங்கள் திறமையான திண்மக்கழிவு முகாமைத்துவ உபாயங்களை நிறைவேற்றுவதற்குப் போதுமானதாக இல்லை. பேண்தகு முறையில் திண்மக்கழிவு முகாமைத்துவ உபாயங்களை அபிவிருத்தி செய்வதற்கும் நடைமுறைப்படுத்துவதற்கும் போதுமான

ஊக்குவிப்புக்கள் பண உதவியாகவும் தொழில்நுட்ப உதவியாகவும் உள்ளூராட்சி சபைகளிற்கு வழங்கப்பட வேண்டும். இணக்கத்தை ஏற்படுத்தும் பொருட்டு நிறைவேற்றும் சட்டம் இந்த ஊக்குவிப்புக்களுடன் இணைக்கப்பட வேண்டும். உள்ளூராட்சி அதிகார சபைகளின் மொத்த வரவு செலவுத்திட்டத்திலிருந்து ஒரு குறிப்பிட்ட வீதம் திறமையான திண்மக் கழிவு முகாமைத்துவ உபாயங்களை அமுல்படுத்துவதற்காக ஒதுக்கப்பட வேண்டும்.

10. ஆராய்ச்சியும் அறிவிருத்தியும்

திண்மக்கழிவு முகாமைத்துவ உபாயத்தை அமுல்படுத்துவதன் வெற்றியில் ஆராய்ச்சியும் அறிவிருத்தியும் முக்கிய பங்கெடுக்கின்றன. ஆதலால் புதிய கழிவு முகாமைத்துவ தொழில் நுட்பங்கள், மீள்கழற்சிமுறைகள், பொருட்களையும் வளங்களையும் மீளப்பயன்படுத்தல், புதிய தொழில்நுட்பங்களை அறிமுகம் செய்தல் போன்றன தொடர்பான ஆராய்ச்சிகள் தேவைப்படுகின்றன. அத்துடன் இது உபாயத்தின் வெற்றியில் முக்கிய பங்கெடுக்கிறது.

11. தனியார் துறைப் பங்களிப்பு

தனியார் நிறுவனங்களின் கூட்டு முயற்சி திண்மக்கழிவு முகாமைத்துவத்தில் முக்கிய பகுதியாக இருக்கின்றது. இது ஊக்குவிக்கப்பட வேண்டும். தற்போது மீள்கழற்சி முறையை கொண்டுள்ள கைத்தொழிற்சாலைகள், கழிவைச் சேகரிப்பதற்கும் இடமாற்றம் செய்வதற்குமான உள்ளகக்கட்டமைப்பு வசதிகளைக் கூடியளவு அறிவிருத்தி செய்வதில் பங்கேற்பதற்கு ஊக்குவிக்கப்பட வேண்டும். போதிய பாதுகாப்புடனான சாத்தியமான சிறிய மற்றும் நடுத்தர அளவிலான கைத் தொழில் முன்னேற்ற உபாயத்திற்கிணங்க கண்ணாடி, உலோகம் மற்றும் கட்டாசி போன்றவற்றின் மீள்கழற்சி தேவைகள் ஊக்குவிக்கப்படவேண்டும். கவரக்கூடிய வகையிலான நிதியுதவி மற்றும் தொழில்நுட்ப உதவி போன்றவற்றின் ஆதரவு வழங்கலிற்கூடாக மீள்கழற்சி இயந்திரத் தொகுதிகளை மாகாண, பிராந்திய மட்டத்தில் நிறுவுதல் ஊக்குவிக்கப்பட வேண்டும். இத்தகைய ஒரு சூழல், கழிவு சேகரிப்பு மற்றும் கழிவுகற்றலில் தனியார் துறையினரின் பயனுள்ள பங்களிப்பிற்கான முன்னிபந்தனையாக இருக்கும்.

கழிவைச் சேகரிப்பதற்கும் இடமாற்றம் செய்வதற்கும் அதிகமான உள்ளகக்கட்டமைப்பு வசதிகளை வழங்குவதன் மூலம் சேதனக்கழிவை கூட்டுப்பசளையாக மாற்றும் செயற்பாட்டிலும் தனியார் நிறுவனங்களின் பங்களிப்பை ஊக்குவிக்க முடியும். மண்வளமாக்கியாக கூட்டுப்பசளையைப் பயன்படுத்துவதற்கு

விவசாயிகளை ஊக்குவிப்பதன் மூலமாக ஒரு பொருத்தமான சந்தை வாய்ப்பும் நிறுவப்பட வேண்டும். கழிவை ஒரு மூல வளமாகக் கருதி மீள்கழற்சி செய்வதில் தனியார் நிறுவனங்களின் பங்கை ஊக்குவிப்பதற்கான கொள்கைகள் விருத்தி செய்யப்பட வேண்டும்.

திண்மக்கழிவு சேகரிப்பின் அல்லது திண்மக்கழிவின் இறுதிக்கழிவுகற்றலின் முறைமைகளை தனியார் மயப்படுத்துவதன் சாத்தியம் பற்றி உள்ளூராட்சி சபைகள் கூடியளவு கருத்திற் கொள்ள வேண்டும். இதன் விளைவாக, திண்மக் கழிவினை கூடிய திறனுடன் சேகரிக்கவும் இறுதிக்கழிவுகற்றலும் முடியும். பெருமளவு நகரமயமாக்கப்பட்ட பிரதேசங்களில், கழிவைச் சேகரித்தலும் இறுதிக்கழிவுகற்றலும் தனியார் மயப்படுத்தப்படல் கூடியளவு சாத்தியமாக இருக்கும்.

12. சமூகப் பங்களிப்பு

திண்மக்கழிவு முகாமைத்துவத்தில் எந்தவொரு திண்மக்கழிவு முகாமைத்துவ உபாயத்தை அமுல்படுத்துவதற்கும் சமூகத்தினுடைய ஒத்துழைப்பும் பங்களிப்பும் அவசியமானது. ஒவ்வொரு தனிப்பட்ட மனிதனாலும் திண்மக்கழிவு உருவாக்கப்படுகிறது. மறுபுறத்தில் திண்மக்கழிவின் பிழையான முகாமைத்துவத்தால் உண்டாகும் சூழல், சுகாதார தாக்கங்களுக்கு பொதுமக்கள் வன்மையான எதிர்ப்பை வெளிக்காட்டுகின்றனர். பொதுவாக திண்மக்கழிவு முகாமைத்துவம் உள்ளூராட்சி சபைகளுக்கூரிய ஒரு செயற்பாடு என்றே பொதுமக்கள் நினைக்கின்றனர். திண்மக்கழிவு முகாமைத்துவம் சூழலிற்கு சாதகமானதாக அமைவதை உறுதிப்படுத்தலிற்கு பொதுமக்கள் முக்கிய பங்கெடுக்க முடியும் என்பதைக் கருதாவிடத்து அவர்களுடைய சுகாதாரத்தின் பெறுமதி குறைகிறது. சமூகத்தின் வலுவான பங்களிப்பு இல்லாவிடின் கழிவைக் குறைத்தல், மீளப்பயன்படுத்தல், மீள்கழற்சி போன்ற செயற்பாடுகள் நிறைவேற்றப்பட முடியாதிருக்கும். முதலில் குறிப்பிட்டவாறு, விசேடமாக மீள்கழற்சி செய்யும் கைத்தொழிற்சாலைகளில் "முதல்" இல் இருந்து கழிவுகளை வேறுபடுத்தல், திண்மக்கழிவு முகாமைத்துவத்தில் தனியார் துறையினரின் ஒத்துழைப்பைப் பெறுவதற்கு முக்கிய பங்காற்றுகிறது. ஆதலால் கல்வியின் ஊடாகவும் விழிப்புணர்ச்சியூட்டல் ஊடாகவும் முடிந்தளவு சமூகத்தின் பங்களிப்பு ஊக்குவிக்கப்பட வேண்டும். ஏதாவதொரு

திண்மக்கழிவு முகாமைத்துவ நிகழ்ச்சியை வெற்றியுடன் அமுல்படுத்த திண்மக்கழிவு முகாமைத்துவ உபாயங்களை அபிவிருத்தி செய்வதில் தீர்மானம் எடுக்கும் செயற்பாடுகளில் சமூகத்தினுடைய பங்கேற்றல் அதனுடைய தொடக்கத்திலேயே ஊக்குவிக்கப்பட வேண்டும். திண்மக்கழிவு முகாமைத்துவத்தில் சமூகத்தின் சாதகமான ஒத்துழைப்பு அச் சமூகம் தன்னளவில் சுகாதாரமான சுற்றாடலில் வாழ உதவுவதுடன் அது எமது வாழ்வின் மிக முக்கியமான அம்சமுமாகும்.

13. அரசாங்கத்தின் பரத்திரம்

ஒழுங்கற்ற இறுதிக்கழிவுசுற்றல் செயற்பாடுகளைக் குறைக்கும் பொருட்டு கழிவு சேகரிப்பதற்கும் இடமாற்றஞ் செய்யப்படுவதற்கு -மான முறைமைகளை நிறுவுவதற்கும், இறுதிக்கழிவுசுற்றலை சூழலிற்கு சாதகமான முறையில் உறுதிப்படுத்துவதற்கும் உரிய உள்ளகக் கட்டமைப்பு வசதிகளை வழங்குவதற்கு அரசாங்கம் ஆரம்ப நடவடிக்கை எடுக்கும். இது மீள்கழற்சியில் ஈடுபடும் கைத்தொழிற்சாலைகளின் உற்பத்திச் செய்முறைகளைப் பொருளாதார ரீதியில் சாதகமாக வைத்திருக்க உதவும். செயற்பாடுகளின் செலவினங்களை சமாளிக்க பொருத்தமான பாலிப்போர் கட்டண முறைமையொன்று அறிமுகப்படுத்தப்பட வேண்டும். ஆரம்பத்தில் போதிய உள்ளகக் கட்டமைப்பு வசதிகள் இல்லாத காரணத்தால் திண்மக்கழிவு முகாமைத்துவத்தில் தனியார் துறையினரின் கூட்டுச் சேர்தல் இல்லாமையால், நாட்டில் திண்மக்கழிவு முகாமைத்துவ நடைமுறைகளை ஏற்படுத்த ஆரம்ப முதலீட்டை அரசாங்கம் வழங்க வேண்டியிருக்கும். பேண்தகு முறையில், திண்மக்கழிவு முகாமைத்துவத்தில் தனியார் துறையினரின் பங்களிப்பை ஊக்குவிக்கும் பொழுது, அதன்பின்னர் அரசாங்கம் முதலீட்டின் பெறுமதியைப் படிப்படியாக ஒரு குறிப்பிட்ட குறைந்த எல்லைப் பெறுமதிக்குக் குறைக்க முடியும். தேசிய திண்மக்கழிவு முகாமைத்துவ உபாயத்தை அமுல்படுத்துவதற்கு உதவியாக தேசிய கொள்கைகள் அபிவிருத்தி செய்யப்பட வேண்டும். இந்தக் கொள்கைகளை சரியான முறையில் அமுல்படுத்துவதன் பொருட்டு, பொருத்தமான ஒழுங்குமுறைக் கட்டுப்பாடுகள் விருத்தி செய்யப்படுவதும் முக்கியமானதொன்றாக உள்ளது.

14. திண்மக்கழிவு முகாமைத்துவத்தில் பல்துறைசார்பங்களிப்பும், பரஸ்பர எதிர்விளைவுகளுக்கான தேவையும்.

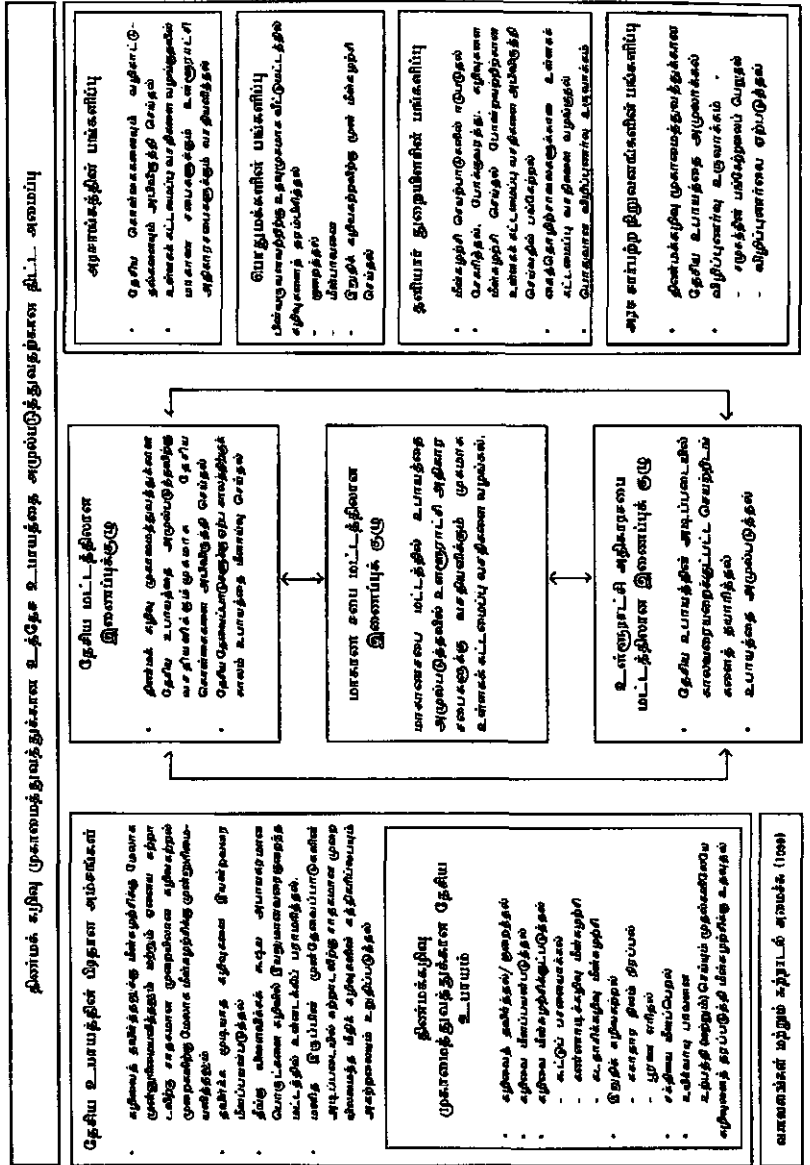
திண்மக்கழிவு முகாமைத்துவமானது உள்ளூராட்சி அதிகார சபைகளினது பொறுப்பாக மட்டும் இருக்கக்கூடாது. இது பல்வேறு கட்டங்களில் பொதுமக்கள், தனியார் துறையினர் வெவ்வேறு படிக்களிலுள்ள சமூக அமைப்புகள் ஆகிய முழுப்பகுதியினரதும் பொறுப்பாகவும் கடமையாகவும் உள்ளது. கைத்தொழில் அபிவிருத்தியில் கிடைக்கத்தக்கதாகவுள்ள வசதிகளையும் ஊக்குவிப்புகளும் திண்மக்கழிவு முகாமைத்துவ உபாயங்களை அபிவிருத்தி செய்வதிலும் அமுல்படுத்துவதிலும் உள்ளூராட்சி சபைகளுக்குக் கொடுக்கப்பட வேண்டும். நாடளாவிய ரீதியில் கல்வியினூடாவும் விழிப்புணர்ச்சியை உருவாக்குவதன் ஊடாகவும் திண்மக்கழிவு முகாமைத்துவத்தில் அனைத்துத் துறையினரதும் ஒத்துழைப்புப் பெறப்பட முடியும்.

15. தேசிய திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயத்தை அமுலாக்குவதற்கான தாபன பொறிமுறை.

தேசிய திண்மக்கழிவு முகாமைத்துவ உபாயத்தை அமுல்படுத்துவதற்கு பொருத்தமான தாபன அமைப்பை நிறுவுதல் முக்கியமானதாக உள்ளது.

தேசிய, மாகாண, உள்ளூராட்சி மட்டங்களை ஒன்றிணைக்கும் பொறி அமைப்பை நிறுவுவதன் மூலம் தற்போதைய தாபன அமைப்பு வலுப்படுத்தப்பட முடியும். திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாய அமுலாக்கலை தேசிய மட்டத்தில் இணைப்பதற்கு தேசிய இணைப்புக் குழுவொன்று நிறுவப்பட வேண்டும். மாகாணசபைகள் மற்றும் உள்ளூராட்சி அமைச்சினதும் சுற்றாடல் அமைச்சினதும் செயலாளர்களினால் இந்தக் குழு கூட்டாக தலைமைதாங்கப்பட வேண்டும்.

தேசிய மட்டத்தில் திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயத்தை அமுல்படுத்தலை இணைந்து செய்வதும், திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயத்தை அமுல்படுத்துவதற்கான வசதிகளை நாடளாவிய ரீதியில் பெறுவதற்கு தேசிய கொள்கைகளை அபிவிருத்தி செய்வதும் இந்த இணைப்புக்குழுவினுடைய அதிகாரமாக இருக்க வேண்டும்.



மேலும் இந்தக் குழு உபாயத்தைக் காலத்திற்குக் காலம் மீளாய்வு செய்து தேசிய ரீதியிலான தேவைகளின் பொருட்டு தேவையான கொள்கை கீராக்கங்களை செய்யும் தேசிய இணைப்புக்குழு ஆனது தேசிய, மாகாண, உள்ளூராட்சிசபை மட்டத்தில் அரச துறை, தனியார்துறை, கைத்தொழிற் சம்மேளனங்கள், சமுதாய அமைப்புகள் ஆகியவற்றின் பிரதிநிதிகளை உள்ளடக்கியிருக்க வேண்டும். இந்த இணைப்புக்குழுவின் வழிகாட்டலின் கீழ் மத்திய சுற்றாடல் அதிகார சபையினால் திண்மக் கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயத்தை அமுல்படுத்துவதற்கான வழிகாட்டிகள் தயாரிக்கப்பட வேண்டும். திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயத்தை அமுல்படுத்தலுக்கான பொறுப்பு மாகாணசபைகள், உள்ளூராட்சி சபைகள் என்பவற்றிற்கு வழங்கப்பட வேண்டும். திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாய திட்ட அமைப்பினுள் ஒரு குறிப்பிட்ட கால எல்லையில் செயற்படுத்தும் திட்டங்கள் உள்ளூராட்சி அதிகாரசபைகளினால் தயாரிக்கப்பட வேண்டும். திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயத்தை நாடளாவிய ரீதியில் அமுல்படுத்துவதை உறுதி செய்யும் பொருட்டு மாகாண, உள்ளூராட்சி அதிகாரசபை மட்டத்திலும் இணைப்புக்குழுக்கள் நிறுவப்பட வேண்டும்.

16 கல்வியும் விழிப்புணர்வை உருவாக்கலும்

தேசிய, மாகாண, உள்ளூராட்சி அதிகாரசபை மட்டத்தில் திண்மக்கழிவு முகாமைத்துவத்துக்கான தேசிய உபாயத்தை அமுல்படுத்துவதை உறுதிப்படுத்துவதில் கல்வியும் விழிப்புணர்வை உருவாக்கலும் முக்கிய பங்கெடுக்கின்றன. கழிவைக் குறைத்தல், மீளப் பயன்படுத்தல், மீள்கழற்சி, வீட்டுப்பாவனை மட்டத்தில் கழிவு தொடர்பான ஒழுங்கை ஏற்படுத்தல், சூழலிற்கு சாதகமான முறையில் இறுதிக்கழிவுகற்றல் போன்றவற்றை ஊக்குவிப்பதற்கு பாடசாலைகள், சமூக ஸ்தாபனங்கள், பல்கலைக்கழகங்கள், மாதர்சங்கங்கள், கைத்தொழில் சம்மேளனங்கள், உள்ளூராட்சி அதிகாரசபைகள் போன்றவற்றினூடாக கல்வி, விழிப்புணர்வு தொடர்பான நிகழ்ச்சிகள் செயற்படுத்தப்பட வேண்டும் நாட்டில் பேணத்தகு திண்மக்கழிவு முகாமைத்துவத்தை ஏற்படுத்துவதற்கு கல்வியும் விழிப்புணர்வை உருவாக்கலும் ஒரு தொடர்ச்சியான செயற் பாடாக அமைய வேண்டும்.

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