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MINISTRY OF HOUSING
AND CONSTRUCTION
THE SYRIAN ARAB REPUBLIC

THE STUDY ON
SEWERAGE SYSTEM DEVELOPMENT
IN THE SYRIAN ARAB REPUBLIC

FINAL REPORT
[Volume III : Supporting Report]

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JAPAN INTERNATIONAL COOPERATION AGENCY

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Volume III: Supporting Report

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WATER AND WASTEWATER SECTOR

1-1 Background

Syria is a semi-arid country with scarce water resources. High population growth rates, accelerated urbanization, and rapid economic development have increased the pressures on water resources, and have led to a continuous process of degradation of these resources endangering the long-term water sustainability.

Syria is sub-divided into seven water resources management basins. The average total surface water resource in Syria (excluding the Tigris River) is about 10 billion cubic meters per year. The total renewable groundwater resources are estimated to be in the range of 6 billion cubic meters per year. A comparison and analysis of historical and actual data indicate that the current groundwater extraction exceeds by far the recharge potential in almost all regions of Syria. This is manifested by the continuous drop of the groundwater table in almost all regions.

About 90 percent of all water resources in Syria are used for irrigation. Domestic water usage represents only about 8 percent, and the remaining 2 percent are used for industrial and commercial purposes. In total, 1160 million cubic meters of drinking water was produced in 2004. Water network losses are estimated to vary between 16 and 46 percent. The total number of connections is 2.7 million.

Public water supply systems in Syria presently cover about 92 percent of the households in urban areas and over 76 percent in rural areas. Most of the domestic drinking water is supplied by groundwater wells. The average specific consumption ranges from about 60 to 150 liter per capita per day.

Results of available water quality data clearly reveal that pollution of groundwater and surface water with domestic and industrial wastewater occurs across the entire country; and although sewage networks have been constructed in many villages and small towns, however wastewater treatment facilities are lacking. In 2004, the total length of the sewage networks in Syria was 18,300 km. Population with access to a sanitary network is about 95 percent in urban areas and 45 percent in rural areas. Only 24 percent of customers are connected to wastewater treatment plants.

1-2 Performance in the 9th Five-Year Plan

The total investment in the drinking water sector in the 9th five-year plan was 52 billion Syrian pounds. Percentage completion of planned projects was close to 98 percent. Population with access to clean water increased from 84% in 2000 to 92%

in 2004. Water produced increased from 920 million cubic meters in 2000 to 1160 million cubic meters in 2004. Number of customers increased from 2.1 million in 2000 to 2.7 million in 2004.

The total investments in the sewage sector included in the 9th five-year plan was 6 billion Syrian pounds. Percentage completion of planned projects was close to 100 percent. Population with access to sanitary sewers increased from 66% in 2000 to 77% in 2004.

1-3 Weaknesses and Challenges Facing the Sector

Problems and challenges in the drinking water sector may be summarized as follows:

- Excessive physical and administrative water losses
- Leakage of sanitary sewage to a number of water resources which leads to its pollution and prevents its usage as a safe source of drinking water
- Illegal connections to water networks as a result of illegal housing and delay in issue of legislation which bans such actions
- Expansion in the drilling of illegal water wells which has negative impacts on the groundwater resources
- Lack of economic feasibility studies for most drinking water projects
- High increases in population growth rates which cannot be balanced by the limited water resources
- Old age of equipment and machinery used in the drinking water sector
- Weaknesses in the technical studies for implementation of most water projects due to lack of expertise
- Increase in operational costs due to the rise in electricity and fuel fees which increases the budget of establishments and results in financial deficits
- The low levels of water tariff which did not change since the year 2000 and the increase in cost of drinking water production which results in imbalances between revenues and expenses, resulting in deficits in budgets
- Efficiency problems and defects in water meters in addition to a weak collection system
- Multiplicity of the parties involved in the water sector and in overlapping responsibilities
- Centralization in decision making
- Weak role of water users in the planning of water and wastewater projects

- Lack of a policy for allocation of water resources for different usage groups
- Lack of trained administrative personnel

Problems facing the sanitary sewage sector may be summarized as follows:

- A number of organizations are involved in the sewage projects whether in studies or execution or administration with lack of coordination and integration which leads to many problems and to waste
- Lack in efficiency of the sewage networks
- Lack of optimal performance and operation for present sewage treatment projects
- Delays in the implementation of sanitary sewage projects which weakness the target for which it was developed for
- Delay in the execution of certain sanitary sewage projects (studies, tendering, implementation) which has a negative impact on the economic feasibility of these projects after commissioning
- Lack of studies and designs due to lack of technical expertise in this domain
- Lack of environmental impact assessment for most projects
- Lack of trained personnel in the sanitation sector
- Lack of pre-treatment units in health, agricultural and industrial installations which reflects negatively on the performance of municipal wastewater treatment plants

1-4 Future Vision for the Drinking Water Supply and Sewage Sector

It is anticipated that the drinking water supply and sewage sector will evolve in the next 20 years to:

- Provide services that satisfy peoples' needs through highly efficient establishments which manage and preserve water resources designated for drinking purposes in order to ensure all citizens' rights for safe drinking water and treated sewage

1-5 Long-Term Targets for the Drinking Water Supply and Sewage Sector

It is planned for the drinking water supply and sewage sector to develop such as to achieve by 2020 the following targets:

- Percentage population with access to sustainable and safe drinking water is 99% in urban areas and 90% in rural areas

- Cost recovery for operation and maintenance for drinking water supply and sewage services
- Financial independence in the management of drinking water supply and sewage establishments
- Sustainable management of water resources designated for drinking purposes which ensures safe and clean drinking water for current and future generations
- Water demand management
- Reduction of physical and administrative losses
- Reuse of sewage water in other production sectors
- Autonomy in administrative decision making
- Decentralization in the implementation of executive decisions and on the lowest administrative level
- Decisions based on socio-economic appraisals and environmental impact assessments
- Cooperation with the private sector in the performance of tasks which increase the effectiveness of the establishments technically and financially
- Human resources trained and capable of carrying out advanced tasks in appropriate work environment
- The participation and communication with all stakeholders for drinking water supply and sewage projects which ensures that the optimum services are provided to all segments of society

1-6 Tenth Five-Year Plan

A- OBJECTIVES

The objectives to be achieved in the 10^{th} five-year plan for the water and wastewater sector are as follows:

1. Provision of safe drinking water and treated sewage for rural and urban population centers and their developing areas, based on the principle of integrated and sustainable resources between all water users within the hydrologic basin
2. Reduction of water losses in drinking water establishments
3. Providing customers with quality services funded through cost recovery for operation and maintenance, applied gradually, based on subsidies between

different segments of society in a governorate served by a single establishment

4. Establishing the organizational framework which gives the largest possible authorities in the management of human and financial resources for the administration of establishments, and which enables them to take decisions at the lowest administrative level
5. Establishing the organizational framework which coordinates the tasks between the organizations responsible for water supply, water distribution, sewage collection, sewage treatment, and wastewater reuse under a single administration or organization, and establishing the organizational framework for the participation of the private sector in the execution of specific tasks
6. Professional development for all workers in the sector which would enable them to execute their tasks with efficiency and effectiveness, and training them to perform advanced tasks, and providing them with the appropriate work environment which guarantees that competent personnel with continue working in this sector
7. Communications and the implementation of the participatory approach in the preparation of plans and funding of projects for population centers which will be supplied with drinking water and wastewater services

B- Principal Quantitative Targets on the Sectoral and Overall Levels

Based on the objectives stated above, the principal quantitative targets for the water and wastewater sector that can be achieved during the 10th five-year plan can be summarized as follows:

- Provision of safe drinking water for 96% of the population
- Provision of sewage networks for 81% of the population
- Provision of treated sewage water for 46% of the population
- Reduction of water losses in water establishments to 25%
- Achieving a cost recovery ratio for operation and maintenance for water supply services between 2006 to 2010 as follows:

2006	2007	2008	2009	2010
%55	%60	%65	%75	%90

- Achieving a cost recovery ratio for operation and maintenance for sewage collection and treatment services between 2006 to 2010 as follows:

2006	2007	2008	2009	2010
%25	%30	%35	%40	%50

- Training 100% of workers in upper administrative levels
- Training 20% of technical workers
- Achieving 80 liters daily consumption of water per capita

C- Strategies

The drinking water supply and sewage sector is considered a principal service sector for all other development sectors, which is based on satisfying the needs of users with minimal costs. And even though this sector is a non-profit, it is supposed to be capable of recovering the costs of the services it provides to its customers, in addition to the environmental sustainability of water resources designated for drinking purposes. Following is a number of strategies are presented which are supposed to assist in achieving these targets:

- Provision of safe drinking water and treated wastewater for urban and rural areas (in relation to objective 1)

  1. Estimate future needs for drinking water supply and wastewater treatment in coordination with other related parties

  2. Develop plans for water and sanitation projects; assess their environmental and social and economic aspects; and propose alternatives if necessary, and specify required resources to execute there projects and their sources and means for acquiring these funds

  3. Develop programmes for saving water consumption through demand management projects associated with economic incentives and specify their sources and means for acquiring these funds

  4. Monitor water sources in quality and quantity and take necessary preventive measures to protect them

- Reduction of physical and administrative losses (in relation to objective 2):

  5. Give water and wastewater establishments the authorities to implement measures to reduce administrative losses

  6. Prepare a programme to reduce the physical and administrative water losses, and to monitor results of implemented measures and propose alternative measures in case of ineffectiveness

- Providing customers with quality services funded by cost recovery of operation and maintenance (in relation to objective 3):

  7. Obtain feedback on the status of provided services, and improve them such as to provide for customers' needs and with the least costs possible

  8. Determine the actual costs for operation and maintenance and suggest mechanisms for recovering the costs of these expenses gradually based on subsidies between different segments of society on the governorate level

- Authorities in the administration of human and financial resources and in taking decisions on the lowest administrative levels (in relation to objective 4):

  9. Give water and wastewater establishments larger authorities in the administration of human and financial resources

  10. Develop and adopt bylaws which would give workers higher responsibilities in the water and wastewater establishments, and which delegates authorities in decision making to lowest administrative levels.

- Establishing the institutional framework which determines the relationship between the organizations of the sector and with the private sector (in relation to objective 5):

  11. Adopt an institutional system that coordinates the relationship between the organizations working in the water and wastewater sector responsible for water supply, water distribution, wastewater collection, wastewater treatment, and wastewater reuse.

  12. Develop and adopt an institutional system which specifies the relationship and areas for cooperation between the water and wastewater sector's organizations and the private sector

- Professional development for all workers (in relation to objective 6):

  13. Organize training courses for raising the technical and administrative competence of workers on all levels systematically and continuously

  14. Create an appropriate work environment and economic incentives in order to maintain competent personnel within the sector and to prevent them from leaving

- Communications and participatory approach in the preparation of plans and funding of projects (in relation to objective 7):

15. Present to stakeholders results of environmental impact assessments and socio-economic appraisals for water and wastewater programmes in order to take into considerations their opinions on the proposed measures and to obtain their approval

16. Encourage citizens through organizations of civil society to contribute to the financing of projects for water supply and sanitation

17. Raise awareness for citizens through communication campaigns concerning issues dealing with the management of water resources and for services related to water supply and sanitation.

D- Policies and Measures and Work Plan:

1. Assessment of future needs for drinking water and reuse of treated wastewater (in relation to strategy 1):
   - Coordination with the Ministry of Irrigation to allocate the necessary water resources needed for drinking purposes
   - Coordination with the ministry of agriculture and irrigation for reuse of wastewater for irrigation purposes
   - Coordination with the Ministry of Irrigation for possibility of transfer of water resources between hydrologic basins if necessary
   - Coordination with related ministries for determining prospects for future population growth in urban and rural areas

2. Study and execute water and sanitation projects (in relation to strategy 2):
   - Updating the water resources map and establishing a database for water projects
   - Establishing the complete regional plan for sewage treatment in all Syrian governorates
   - Establishing a programme for drinking water supply projects with priority to areas which lacks drinking water resources
   - Performing environmental impact assessments and socio-economic appraisals for water programmes, and adopting final solutions and prioritizing it in accordance to specific criteria

- Completing the studies and contract documents for priority projects
- Follow-up on the preparation of the Syrian code for the quality design and implementation of projects
- Determining the financial resources needed to perform the drinking water supply and sanitation projects and possible sources for funding
- Coordination with related parties in order to obtain the necessary funding for the projects
- Expansion and replacement of drinking water networks for urban and rural population centers
- Expansion and replacement of sewage networks for urban and rural population centers with priority to areas located within the drinking water protection zones
- Construction of wastewater treatment plants in all cities and governorate centers and in population centers where the level of pollution is very high
- Pursuing the implementation of decentralized treatment systems in rural areas in accordance with economic feasibility studies

3. Study and implementation of water demand management projects (in relation to strategy 3):
   - Collection of information on the areas where water demand management techniques can be incorporated for water users
   - Determining possible reduction in water consumption and its financial implications on the revenues of establishments
   - Determining the impact on reduction in water consumption on the prioritization of water supply projects and needed financial investments
   - Investigating the costs resulting from the implementation of water demand management techniques for water users
   - Determining the financial resources needed to implement water demand management projects and possible sources for funding
   - Coordinating with relevant parties in order to obtain the necessary funding for water demand management projects
   - Coordination with relevant parties on the nature of economic incentives which would encourage users to apply water demand management techniques and means for implementation

- Establishing a priority list for water demand management projects and implementation
- Coordination with the ministry of irrigation and agriculture to implement modern irrigation techniques in agricultural lands adjacent to drinking water supply wells in order to control sporadic pumping and to prevent the over-pumping of the groundwater aquifer for irrigation purposes
- Establishing a guide for conducting customers' surveys for water and wastewater users, including willingness to pay, and degree of awareness for services and positions and practices between users

4. Monitoring of drinking water resources (in relation to strategy 4):
   - Contributing in determining the protection zones for water resources and for creating a network of these zones associated with GIS
   - Monitoring of water supply and distribution techniques which would increase the efficiency of water supply and to control leakage from water networks
   - Establishing a monitoring system for water quality and quantity (health map)
   - Evaluation of potential risks on drinking water resources regularly and in coordination with other parties and implement necessary mitigation measures to reduce negative impacts

5. Higher authorities in the implementation of measures for water loss reduction (in relation to strategy 5):
   - Determining the executive orders and governmental legislation which prevent the water establishments from reducing their water losses
   - Proposing modifications of these executive orders and legislation accompanied by an economic impact assessment
   - Follow-up with the concerned ministries for obtaining the approval on the wider authorities which would enable the water establishments to work with higher effectiveness to reduce water losses

6. Plan for reduction of water losses and monitoring of results (in relation to strategy 6):
   - Evaluation of physical losses in drinking water networks and resulting financial losses

- Evaluation of administrative losses in water establishments and resulting financial losses
- Evaluation of resources needed to reduce physical losses including human and material resources and means for acquiring these resources
- Proposing specific projects for water loss reduction accompanied by an economic feasibility on the actual costs and expected revenues
- Implementing an action plan for projects to reduce physical and administrative losses and monitoring of results
- Conducting studies showing the revenues acquired from the implemented measures
- Implementing appropriate corrective actions in case of ineffectiveness of adopted measures

7. Assessing the customers' perception of provided services (in relation to strategy 7):
   - Implementing a mechanism for monitoring and recording the perceptions of uses on the services provided by the water establishments
   - Conducting studies on the quality of service provided and resulting costs and comparison with other water establishments
   - Improving the operational procedures of the directorates for customers such as to ensure better quality services for water users
   - Implementing the necessary corrective measures to deal with the aspects related to poor quality work and services or for services with excessively high costs (in comparison with other establishments)

8. Proposing mechanisms for cost recovery from operation and maintenance (in relation to strategy 8):
   - Determining the actual costs for operation and maintenance taking into consideration the additional costs for satisfying customers' needs
   - Conducting a study for the tariff system taking into consideration the economic situation on the different segments of society, and putting in place a mechanism for implementing this system such as to achieve complete cost recovery gradually through operation and maintenance on the level of the governorate

9. Higher authorities in the management of human and financial resources (in relation to strategy 9):
   - Evaluation of actual authorities in the administration of human and financial resources and its impact on satisfying customers' needs, and on the sustainability of drinking water supply sources, and the ability to achieve cost recovery
   - Proposing higher authorities in the areas of human resources and financial management accompanied by an economic feasibility study
   - Follow-up with the government for approval of these authorities which would enable the water and wastewater establishments to achieve the stated objectives more effectively

10. Autonomy in decision making at the lowest administrative level (in relation to strategy 10):
   - Evaluation of existing authorities for taking decisions on the lowest administrative level and its impact on the deterioration of the effectiveness and work efficiency
   - Proposing wider authorities for decision taking on the lowest administrative level accompanied with a risk assessment of the proposed authorities
   - Shifting proposed authorities to the lowest administrative level and monitoring of performance and implementation of appropriate corrective action in case of absence of noticeable improvement in work effectiveness

11. Integration of responsibilities between the sector's organizations (in relation to strategy 11):
   - Evaluation of the present nature of relationships and coordination mechanisms between the sector's organizations
   - Proposing mechanisms for coordination which would lead to integration of responsibilities between the sector's organizations and follow-up on implementation
   - Monitoring of results of coordination and implementing the necessary corrective action in order to ensure effective management for the infrastructure of water and wastewater

12. Coordinating between the water and wastewater establishments and the private sector (in relation to strategy 12):
    - Determining the types of activities and tasks that may be implemented by the private sector and organizing the relationships with the relevant directorates in the establishments
    - Monitoring or results of coordination and cooperation with the private sector and implementing the appropriate corrective action in order to ensure the effective management of the infrastructure of water and wastewater and in order to achieve customers' needs with the least costs

13. Organizing training courses to raise workers' efficiency (in relation to strategy 13):
    - Determining the resources needed for systematic and continual training based on an action plan
    - Design of training programmes to accompany the latest technological developments in order to raise technical competence in the establishments
    - Training workers on the nature of a client-based service-oriented establishments which seek customers' satisfaction
    - Developing the human resource base in charge of financial and accounting matters
    - Monitoring the improvement in the performance of trainees and evaluation of courses and developing them such as to raise work efficiency and effectiveness

14. Creating an appropriate work environment (in relation to strategy 14):
    - Evaluation of the negative impacts of the work environment on the workers' competence
    - Proposing the necessary measures to raise competence
    - Allocation of necessary resources and implementation of the corrective measures and evaluation for effectiveness

15. Providing access to results of assessments to the local population (in relation to strategy 15):
    - Conducting seminars and workshops to provide local people with access to results of environmental assessments and socio-economic

appraisals for proposed programmes dealing with water and wastewater and to give them an opportunity to present their opinion and suggestions

- Putting in place a mechanism for compensating people affected by the project

16. Participation of users in investments (in relation to strategy 16):
    - Conducting surveys to assess willingness of people to participate in the investment costs of projects and establishing mechanisms to achieve this
    - Encouraging cooperation with local neighborhoods committees

17. Communications and awareness of users (in relation to strategy 17):
    - Organizing campaigns which encourage the adoption of water demand management techniques in order to reduce water consumption and to explain the nature of economic incentives presented to the people in this domain
    - Establishing awareness campaigns for all segments of society in order to point out that water is an important resource and the need to preserve it

E- Institutional and Legislative Policies Requirements

Based on the foregoing, it is possible to summarize the required reforms as follows:

- On the government's level
    - Revision of existing legislations in order to give the water and wastewater establishments higher authorities in the management or their financial affairs, human resources, accounting, purchasing and contracts, ...
    - Issue of legislation to unify the public institutions with jurisdiction over wastewater collection and treatment and reuse of treated wastewater
- Reforms required from the Ministry of Housing and Construction
    - Issue of a ministerial decree to re-organize the water and wastewater establishments in order to achieve the adopted policies and objectives
    - Establishing the institutional framework organizing relationships between the sector's organizations, and between these organizations and the private sector
    - Revision of the bylaws of the establishments

- Reforms required from the water and wastewater establishments
    - Transfer of authorities for decision making in the establishments to the lowest administrative level

F- Programme and Projects

Projects in this sector can be classified between drinking water and sanitation projects (including wastewater treatment). Yearly and total investments in this sector are as follows:

Year	Investments in Drinking Water Projects in million Syrian Pounds	Investments in Sanitation Projects in million Syrian Pounds
2006	12,200	4,085
2007	12,562	11,000
2008	11,690	13,000
2009	9,330	8,000
2010	8,079	7,000
Total Investment	53,861	43,085

1-7 Accomplishments and Returns Expected from the Sector's Plan

Accomplishments and returns expected from the implementation of the above noted plan can be differentiated between those with direct financial impact and other with indirect benefits

- Measures with direct financial impacts
    - Proposed policies and measures which aim at reducing water losses due to leaks in networks and from problems in water meters and related aspects, which figures indicate that such losses exceed 50% in most establishments, will result in the increase in the establishments' revenues of at least 2.5 billion Syrian pounds, which represents about 0.25% of the 2004 GDP for Syria
- Indirect Benefits
    - Integrated water resources management and coordination and distribution of responsibilities between the water and wastewater sector's organizations and the hydrologic basins will lead to prevention of depletion of water resources in the basin and its pollution
    - Providing the water establishments with autonomy in decision making in its human and financial matters will lead to raising the competence of the administration and to improving work environment. In addition, this will help to satisfy customers' needs in speed and

effectiveness due to the fact that the establishments control their own financial and human resources needed to achieve these tasks, and as a result, the worker finds himself accountable in case of he does not perform

- Taking decisions on the lowest administrative level will contribute to making decision makers feel responsible for their work which raises their level of competence, and his willingness to do work and would reduce the level of routine within the establishment
- Cost recovery will contribute to reduce the financial burden on the government budget, and will contribute to financial sustainability
- Communication with people in water and wastewater projects will give people the feeling that these projects are built for his own benefit and as a result he will attempt to protect it and may even contribute in its funding
- Providing drinking water to all segments of society will assist to raise the level of income and will limit poverty and as a result people will stay in their areas, and this will reduce migration to cities with all associated negative social impacts
- Treatment of wastewater will reduce the contamination of groundwater due to leakage of untreated wastewater
- Treatment of waste water will reduce the exposure of people to diseases and illnesses due to water pollution and as a results will reduce cost of health treatment and will raise level of productivity
- Treatment of wastewater will provide addition water resources for irrigation purposes

1-8 Risks that Prevent the Implementation and Achievement of Expected Outputs

The following risks may be the reason for not achieving the expected objectives of the above-mentioned plan. These risks should b e reduced in order to increase the chances for the success of this plan

- Lack of coordination between the ministries of housing and irrigation and agriculture in the integrated management of water resources which has a negative impact on the sustainability of drinking water sources for existing and future planned water projects

- Technical and administrative weaknesses in the skills and competence of existing human resources which may not be qualified to take decisions at the lowest administrative level
- Waste of drinking water due to lack of awareness of people as to the importance and need to preserve this precious resource which is caused by the reduced water tariff fees
- Lack of awareness of people as to the importance of the sewage sector and its role in preserving water resources from contamination in addition to protecting them from disease and providing additional resource for irrigation.

1-9 Indicators for Follow-up

The 10th five-year plan may be followed-up by means of the following indicators:

- Percentage of people served by drinking water supply networks
- Percentage of people served by sewage networks
- Percentage of people served by wastewater treatment plants
- Number of cases of water-born diseases resulting from water pollution (diarrhea, ...)
- Percentage of people migrating from urban to rural areas which were serviced by drinking water and sewage treatment
- Physical losses in water networks
- Administrative losses in water establishments
- Cost recovery as a percentage of operation and maintenance
- Cost recovery as a percentage of operation and maintenance and investments
- Customers' satisfaction on provided services
- Water consumption per capita per day
- Percentage of water demand management projects to water supply projects
- Percentage of trained persons in the upper administrative levels
- Percentage of trainees in the technical level
- Bills' payments collection efficiency
- Investments in drinking water projects per capita
- Investments in sewers projects per capita
- Investments in wastewater treatment projects per capita

1-10 Logical Framework

Sector Name: Water and Wastewater Sector

Strategies	Measures	Outputs	Indicators	Responsibility	Timeframe
Estimate future needs for drinking water supply and wastewater treatment in coordination with other related parties	Coordination with the Ministry of Irrigation to allocate the necessary water resources needed for drinking purposes	Provision of drinking water resources	Coordination committees and decisions	Water Establishments	2006
	Coordination with the ministry of agriculture and irrigation for reuse of wastewater for irrigation purposes	Provision of drinking water resources and protecting it from pollution	Coordination committees and decisions	Sewage Companies MOH&C	2006 – 2009
	Coordination with the Ministry of Irrigation for possibility of transfer of water resources between hydrologic basins if necessary	Integrated water resources management	Coordination committees and decisions	Water Establishments	2006 - 2010
	Coordination with related ministries for determining prospects for future population growth in urban and rural areas	Provision of drinking water resources	Coordination committees and decisions	MOH&C	2006 - 2010
Develop plans for water and sanitation projects; assess their environmental and social and economic aspects; and propose alternatives if necessary, and specify required resources to execute there projects and their sources and means for acquiring these funds	Updating the water resources map and establishing a database for water projects	Provision of information and facts for future projects	Water resources and projects map	Water Establishments MOH&C	2006 - 2007
	Establishing the complete regional plan for sewage treatment in all Syrian governorates	Provision of information and facts for future projects	Comprehensive regional plan for wastewater	MOH&C	2006 – 2008
	Establishing a programme for drinking water supply projects with priority to areas which lacks drinking water resources	Optimal implementation of drinking water projects	Drinking water programme	Water Establishments MOH&C	2006 – 2008
	Performing environmental impact assessments and socio-economic appraisals for water programmes, and adopting final solutions and	Determination of projects' priorities based	Environmental impact assessment	Water Establishments	2006 - 2010

	prioritizing it in accordance to specific criteria	on data and facts	and socio-economic appraisals	MOH&C	
	Completing the studies and contract documents for priority projects	Preparation of projects files awaiting implementation	Studies and construction plans for projects	Water Establishments MOH&C	2006 – 2009
	Follow-up on the preparation of the Syrian code for the quality design and implementation of projects	Implementation of projects based on international standards	Syrian code for design and implementation of projects	MOH&C	2007
	Determining the financial resources needed to perform the drinking water supply and sanitation projects and possible sources for funding	Ensuring financial resources for implementation of projects	Financial studies for projects	Water Establishments MOH&C	2006 – 2009
	Coordination with related parties in order to obtain the necessary funding for the projects	Ensuring financial resources for implementation of projects	Coordination minutes of meetings	Water Establishments MOH&C	2006 – 2009
	Expansion and replacement of drinking water networks for urban and rural population centers	Improving level of drinking water service	Replaced drinking water networks	Water Establishments	2006 - 2010
	Expansion and replacement of sewage networks for urban and rural population centers with priority to areas located within the drinking water protection zones	Improving level of wastewater service and particularly for environmentally sensitive areas	Replaced sewer networks	Water Establishments	2006 - 2010

	Construction of wastewater treatment plants in all cities and governorate centers and in population centers where the level of pollution is very high	Reduction of water pollution and water born diseases	Constructed wastewater treatment plants	Water Establishments MOH&C	2006 - 2010
	Pursuing the implementation of decentralized treatment systems in rural areas in accordance with economic feasibility studies	Reduction of level of pollution of soil and groundwater in rural areas	Reduction in level of water pollution in rural areas	Water Establishments MOH&C	2007 - 2010
Develop programmes for saving water consumption through demand management projects associated with economic incentives and specify their sources and means for acquiring these funds	Collection of information on the areas where water demand management techniques can be incorporated for water users	Awareness about water demand management techniques	Documented information	Water Establishments MOH&C	2007
	Determining possible reduction in water consumption and its financial implications on the revenues of establishments	Encouraging institutions to adopt water demand management projects	Technical and financial studies	Water Establishments MOH&C	2007
	Determining the impact on reduction in water consumption on the prioritization of water supply projects and needed financial investments	Encouraging institutions to adopt water demand management projects	Studies to determine projects priorities	Water Establishments MOH&C	2007
	Investigating the costs resulting from the implementation of water demand management techniques for water users	Ensuring the ability to implement studied projects	Financial studies	Water Establishments MOH&C	2007

	Determining the financial resources needed to implement water demand management projects and possible sources for funding	Ensuring that financial resources are available for implementing studied projects	Financial studies for projects	Water Establishments MOH&C	2007 - 2010
	Coordinating with relevant parties in order to obtain the necessary funding for water demand management projects	Ensuring the ability to implement water demand management projects	Coordination minutes of meetings	Water Establishments MOH&C	2009 – 2008
	Coordination with relevant parties on the nature of economic incentives which would encourage users to apply water demand management techniques and means for implementation	Ensuring the ability to implement water demand management projects	Coordination minutes of meetings	Water Establishments MOH&C	2008 – 2009
	Establishing a priority list for water demand management projects and implementation	Optimal implementation of water demand management projects	Projects priority list for implementation	Water Establishments	2008 – 2010
	Coordination with the ministry of irrigation and agriculture to implement modern irrigation techniques in agricultural lands adjacent to drinking water supply wells in order to control sporadic pumping and to prevent the over-pumping of the groundwater aquifer for irrigation purposes	Ensuring sustainability of water resources for implemented projects	Coordination committees and decisions	MOH&C	2007

	Establishing a guide for conducting customers' surveys for water and wastewater users, including willingness to pay, and degree of awareness for services and positions and practices between users	Determining the ability of customer to pay for provided services	Customer feedback guideline	Water Establishments MOH&C	2008
Monitor water sources in quality and quantity and take necessary preventive measures to protect them	Contributing in determining the protection zones for water resources and for creating a network of these zones associated with GIS	Protection of water resources from pollution	Studies to determine the protection zone for water sources	Water Establishments	2006 - 2007
	Monitoring of water supply and distribution techniques which would increase the efficiency of water supply and to control leakage from water networks	Halting the depletion of water resources	Studies to monitor techniques for water supply and distribution	Water Establishments	2008 – 2009
	Establishing a monitoring system for water quality and quantity (health map)	Protection of water resources from depletion and pollution	Health map	Water Establishments MOH&C	2007 - 2008
	Evaluation of potential risks on drinking water resources regularly and in coordination with other parties and implement necessary mitigation measures to reduce negative impacts	Protection of water resources from depletion and pollution	Risk assessments for drinking water sources	Water Establishments MOH&C	2008 – 2010
Give water and wastewater establishments the authorities to implement measures to reduce administrative losses	Determining the executive orders and governmental legislation which prevent the water establishments from reducing their water losses	Reduction of physical and administrative water losses	Report on legislations and government decisions	Water Establishments MOH&C	2006

	Proposing modifications of these executive orders and legislation accompanied by an economic impact assessment	Reduction of physical and administrative water losses	Report on modifications to government legislations and decisions and economic impacts	Water Establishments MOH&C	2006
	Follow-up with the concerned ministries for obtaining the approval on the wider authorities which would enable the water establishments to work with higher effectiveness to reduce water losses	Reduction of physical and administrative water losses	Decision to provide higher authorities	Water Establishments MOH&C	2006 - 2007
Prepare a programme to reduce the physical and administrative water losses, and to monitor results of implemented measures and propose alternative measures in case of ineffectiveness	Evaluation of physical losses in drinking water networks and resulting financial losses	Reduction of physical and administrative water losses	Studies on physical losses and financial impacts	Water Establishments MOH&C	2007 – 2008
	Evaluation of administrative losses in water establishments and resulting financial losses	Reduction of physical and administrative water losses	Studies on administrative losses and financial impacts	Water Establishments MOH&C	2007 – 2008
	Evaluation of resources needed to reduce physical losses including human and material resources and means for acquiring these resources	Ensuring the ability to implement water loss reduction projects	Financial studies for projects	Water Establishments	2008
	Proposing specific projects for water loss reduction accompanied by an economic feasibility on the actual costs and expected revenues	Implementation of most effective projects for water loss	Studies on proposed projects and economic feasibility	Water Establishments MOH&C	2008

		reduction			
	Implementing an action plan for projects to reduce physical and administrative losses and monitoring of results	Implementation of most effective projects for water loss reduction	Action plan for projects to reduce waster losses	Water Establishments MOH&C	2008
	Conducting studies showing the revenues acquired from the implemented measures	Ensuring continuity in implementation of water loss reduction projects	Studies on revenues	Water Establishments MOH&C	2008 - 2010
	Implementing appropriate corrective actions in case of ineffectiveness of adopted measures	Ensuring continuity in implementation of projects to reduce water losses	Corrective actions	Water Establishments MOH&C	2009 – 2010
Obtain feed back on the status of provided services, and improve them such as to provide for customers' needs and with the least costs possible	Implementing a mechanism for monitoring and recording the perceptions of uses on the services provided by the water establishments	Knowledge of customers perception of level of service	Mechanism to monitor customers' feedback and perceptions	Water Establishments	2007
	Conducting studies on the quality of service provided and resulting costs and comparison with other water establishments	Improving quality performance	Studies on quality performance	Water Establishments	2008
	Improving the operational procedures of the directorates for customers such as to ensure better quality services for water users	Improving quality performance	Improvement measures	Water Establishments	2007

	Implementing the necessary corrective measures to deal with the aspects related to poor quality work and services or for services with excessively high costs (in comparison with other establishments)	Improving quality performance	Corrective actions	Water Establishments	2008 – 2009
Determine the actual costs for operation and maintenance and suggest mechanisms for recovering the costs of these expenses gradually based on subsidies between different segments of society on the governorate level	Determining the actual costs for operation and maintenance taking into consideration the additional costs for satisfying customers' needs	Improving quality performance such as to satisfy customers needs	Cost return studies	Water Establishments	2006
	Conducting a study for the tariff system taking into consideration the economic situation on the different segments of society, and putting in place a mechanism for implementing this system such as to achieve complete cost recovery gradually through operation and maintenance on the level of the governorate	Tariff structure which ensures cost recovery	Study for water tariff	Water Establishments MOH&C	2006
Give water and wastewater establishments larger authorities in the administration of human and financial resources	Evaluation of actual authorities in the administration of human and financial resources and its impact on satisfying customers' needs, and on the sustainability of drinking water supply sources, and the ability to achieve cost recovery	cost recovery	Study on current authorities	Water Establishments Sewage Companies MOH&C	2006
	Proposing higher authorities in the areas of human resources and financial management accompanied by an economic feasibility study	cost recovery	Report suggesting higher authorities and economic impacts	Water Establishments MOH&C	2006

	Follow-up with the government for approval of these authorities which would enable the water and wastewater establishments to achieve the stated objectives more effectively	cost recovery	Decree giving higher authorities	MOH&C	2006
Develop and adopt bylaws which would give workers higher responsibilities in the water and wastewater establishments, and which delegates authorities in decision making to lowest administrative levels	Evaluation of existing authorities for taking decisions on the lowest administrative level and its impact on the deterioration of the effectiveness and work efficiency	Increased work effectiveness and revenue	Study on current authorities	Water Establishments MOH&C	2006
	Proposing wider authorities for decision taking on the lowest administrative level accompanied with a risk assessment of the proposed authorities	Increased work effectiveness and revenue	Report suggesting higher authorities	Water Establishments MOH&C	2006
	Shifting proposed authorities to the lowest administrative level and monitoring of performance and implementation of appropriate corrective action in case of absence of noticeable improvement in work effectiveness	Increasing work effectiveness and revenue	Decision allowing transfer of authorities to lower administrative levels	Water Establishments MOH&C	2007 – 2008
Adopt an institutional system that coordinates the relationship between the organizations working in the water and wastewater sector responsible for water supply, water distribution, wastewater collection, wastewater treatment, and wastewater reuse	Evaluation of the present nature of relationships and coordination mechanisms between the sector's organizations	Increased work effectiveness	Study that assesses the nature of relationship with the private sector and coordination mechanism	MOH&C	2006
	Proposing mechanisms for coordination which would lead to integration of responsibilities between the sector's organizations and follow-up on implementation	Increased work effectiveness	Coordination mechanisms	MOH&C	2006

	Monitoring of results of coordination and implementing the necessary corrective action in order to ensure effective management for the infrastructure of water and wastewater	Increased work effectiveness	Report on the monitoring of results of coordination and corrective actions	Water Establishments Sewage Companies MOH&C	2007 – 2009
Develop and adopt an institutional system which specifies the relationship and areas for cooperation between the water and wastewater sector's organizations and the private sector	Determining the types of activities and tasks that may be implemented by the private sector and organizing the relationships with the relevant directorates in the establishments	Increased work effectiveness	Report on the nature of activities of the private sector	Water Establishments MOH&C	2006
	Monitoring or results of coordination and cooperation with the private sector and implementing the appropriate corrective action in order to ensure the effective management of the infrastructure of water and wastewater and in order to achieve customers' needs with the least costs	Increased work effectiveness	Report on the monitoring of results of coordination and cooperation with the private sector	Water Establishments MOH&C	2007 – 2009
Organize training courses for raising the technical and administrative competence of workers on all levels systematically and continuously	Determining the resources needed for systematic and continual training based on an action plan	Increased capacities of personnel	Financial resources allocated for training	Water Establishments MOH&C	2006 – 2010
	Design of training programmes to accompany the latest technological developments in order to raise technical competence in the establishments	Increased capacities of personnel	Training programmes	Water Establishments MOH&C	2007 – 2009
	Training workers on the nature of a client-based service-oriented establishments which seek customers' satisfaction	Increased capacities of personnel	Trained personnel	Water Establishments MOH&C	2007 – 2009
	Developing the human resource base in charge of financial and accounting matters	Increased capacities of personnel	Trained personnel in financial	Water Establishments MOH&C	2007 – 2009

			matters and accounting		
	Monitoring the improvement in the performance of trainees and evaluation of courses and developing them such as to raise work efficiency and effectiveness	Increased capacities of personnel	Report on the monitoring of trainees' performance and evaluation of courses	Water Establishments MOH&C	2007 – 2009
Create an appropriate work environment and economic incentives in order to maintain competent personnel within the sector and to prevent it from leaving	Evaluation of the negative impacts of the work environment on the workers' competence	Improved work environment	Assessment report on the negative aspects affecting work environment	Water Establishments MOH&C	2006
	Proposing the necessary measures to raise competence	Improved work environment	Report on proposed measures	Water Establishments MOH&C	2006
	Allocation of necessary resources and implementation of the corrective measures and evaluation for effectiveness	Improved work environment	Allocated financial resources	Water Establishments MOH&C	2007 – 2009
Present to stakeholders results of environmental impact assessments and socio-economic appraisals for water and wastewater programmes in order to take into considerations their opinions on the proposed measures and to obtain their approval	Conducting seminars and workshops to provide local people with access to results of environmental assessments and socio-economic appraisals for proposed programmes dealing with water and wastewater and to give them an opportunity to present their opinion and suggestions	Public participation in water and wastewater projects	Seminars and workshops	Water Establishments MOH&C	2007 – 2009
	Putting in place a mechanism for compensating people affected by the project	Public support to water and wastewater projects	Mechanism to compensate people	Water Establishments MOH&C	2006 – 2007

Encourage citizens through organizations of civil society to contribute to the financing of projects for water supply and sanitation	Conducting surveys to assess willingness of people to participate in the investment costs of projects and establishing mechanisms to achieve this	Public participation to water and wastewater projects	Surveys on willingness to pay	Water Establishments MOH&C	2008 – 2009
	Encouraging cooperation with local neighborhoods committees	Public participation to water and wastewater projects	Coordination and cooperation miniatures of meetings with citizens groups	Water Establishments	2007 – 2010
Raise awareness for citizens through communication campaigns concerning issues dealing with the management of water resources and for services related to water supply and sanitation	Organizing campaigns which encourage the adoption of water demand management techniques in order to reduce water consumption and to explain the nature of economic incentives presented to the people in this domain	Public cooperation in implementation of water demand projects	Awareness campaigns on the need to apply water demand management techniques	Water Establishments MOH&C	2007 – 2010
	Establishing awareness campaigns for all segments of society in order to point out that water is an important resource and the need to preserve it	Public cooperation in preservation of water resources	Awareness programmes for all segments of society	Water Establishments MOH&C	2006 – 2010

Appendix for Chapter 7

Population Projection

Table list Population Projection

Table No.	Governorates
A71.1.1	Lattakia
A7.1.2	Tartous
A7.1.3	Deir-Ez-zor
A7.1.4	Hassakeh
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Table list Regressive Projection of Population

Table No.	Governorates
A7.1.8	Syria
A7.1.9	Lattakia
A7.1.10	Tartous
A7.1.11	Deir-Ez-zor
A7.1.12	Hassakeh
A7.1.13	Raqqa
A7.1.14	Dar'aa
A7.1.15	Rural Damascus

Table A7.1.1 Population Projection of Lattakia Gov.

(Unit: person)

Governorate	District	Sub-district	City & Town	1981	1994	2004	2010	2015	2020	2025	Annual Growth Rate
Lattakia	Total		Lattakia	551508	746,533	879,551	983,300	1,060,700	1,127,800	1,185,300	1.65
	Lattakia	Total			435,094	526,888	593,100	642,300	684,600	720,700	1.93
		Lattakia			346,247	424,392	479,600	520,500	555,800	585,900	2.06
		Al-Bahloliya			15,402	17,532	18,900	19,900	20,700	21,400	1.30
		Rabia'a			8,675	8,214	8,700	9,100	9,400	9,600	1.00
		Ain Al-Baida			24,099	30,959	36,000	39,800	43,100	46,000	2.54
		Qastal Ma'af			14,225	16,784	18,500	19,800	20,900	21,800	1.67
		Kasab			2,841	1,927	2,000	2,100	2,200	2,300	1.00
		Handi			23,605	27,080	29,400	31,100	32,500	33,700	1.38
	Jable	Total			166,779	196,171	224,200	245,800	265,100	281,900	1.64
		Jableh			77,000	107,064	130,500	148,900	165,500	180,100	3.35
		Ain Al-Sharkieh			26,905	16,800	17,800	18,500	19,100	19,600	1.00
		Al-Qtailbieh			30,541	32,582	33,900	34,800	35,500	36,100	0.65
		Ain Shqak			19,775	16,031	17,000	17,700	18,300	18,800	1.00
		Daliah			12,558	13,608	14,300	14,800	15,200	15,500	0.81
		Bait Yashout				10,086	10,700	11,100	11,500	11,800	1.00
	Al-Haffeh	Total			75,393	81,213	86,800	90,700	94,000	96,800	0.75
		Al-Haffeh			19,518	23,347	26,000	27,900	29,600	31,000	1.81
		Slunfeh	Total		18,052	19,518	20,400	21,000	21,500	21,900	0.78
			Slunfeh			1,847	1,900	2,000	2,100	2,100	0.78
			Biereen			687	700	700	700	700	0.78
		Ain Al-Tineh			5,971	6,825	7,400	7,800	8,100	8,400	1.35
		Kansaba			16,663	17,615	18,200	18,600	18,900	19,200	0.56
		Al-Mzera'a			15,189	13,908	14,800	15,400	15,900	16,300	1.00
	Al-Qedaha	Total			69,267	75,279	79,200	81,900	84,100	85,900	0.84
		Al-Qerdaha			40,880	44,510	46,800	48,400	49,700	50,800	0.85
		Harf Al-Msitrah			5,739	6,669	7,300	7,800	8,200	8,500	1.51
		Al-Fakhoura			16,956	18,357	19,300	19,900	20,400	20,800	0.80
		Jawbet Berghal			5,692	5,743	5,800	5,800	5,800	5,800	0.09

Table A7.1.2-1 Population Projection of Tartous Gov. (1)

(Unit: person)

Governorate	District	Sub-district	City & Town	1981	1994	2004	2010	2015	2020	2025	Annual Growth Rate
Tartous	Total			443,167	587,514	701,395	784,300	853,900	922,700	990,100	1.79
	Tartous	Total			229,933	283,571	323,200	356,800	390,300	423,200	2.12
		Tartous			127,775	162,980	188,600	210,400	232,200	253,700	2.46
		Arwad			5,016	4,403	4,700	4,900	5,100	5,300	1.00
		Al-Hamidiya			17,799	20,309	22,000	23,400	24,700	25,900	1.33
		Kherbet Al-Meze			17,861	22,897	26,600	29,700	32,800	35,900	2.51
		Al-Sawda			30,103	32,295	33,700	34,800	35,800	36,700	0.71
		Al-Karime			14,034	17,271	19,600	21,500	23,400	25,200	2.10
		Al-Sefsafeh			17,345	23,416	28,000	32,100	36,300	40,500	3.05
	Banias	Total			142,564	174,233	198,200	218,700	239,100	259,400	2.03
		Banias	Total		72,334	94,832	111,600	126,100	140,800	155,500	2.75
			Banias		28,623	41,632	52,100	61,700	71,900	82,500	3.82
			Tero		726	838	900	1,000	1,100	1,200	1.45
			Khaabet Snasel			645	700	800	900	1,000	2.03
			Boston Al-Najor		266	532	600	700	800	900	2.03
		Al-rawda			9,438	11,688	13,300	14,600	15,900	17,200	2.16
		Al-Ennasah			16,381	18,446	19,800	20,900	21,900	22,900	1.19
		Al-Kadmous			18,312	22,370	25,200	27,600	29,900	32,200	2.02
		Hemmam Wasel			8,183	8,522	8,700	8,900	9,000	9,100	0.41
		Al-Tawahin			10,584	10,024	10,600	11,100	11,600	12,000	1.00
		Talin			7,332	8,351	9,000	9,500	10,000	10,500	1.31
	Safita	Total			113,733	129,632	140,500	149,300	157,800	165,900	1.32
		Safita			50,497	60,172	66,900	72,400	77,700	82,800	1.77
		Mastal El Helo			12,448	12,577	12,700	12,800	12,900	12,900	0.10
		Al-Barqie			6,188	7,336	8,100	8,700	9,300	9,900	1.72
		Sebe			7,329	7,614	7,800	7,900	8,000	8,100	0.38
		Al-Sisnieh			18,767	22,018	24,200	26,000	27,700	29,400	1.61
		Ras Al-khshoufeh			18,504	19,915	20,800	21,500	22,200	22,800	0.74

Table A7.1.2-2 Population Projection of Tartous Gov. (2)

(Unit: person)

Governorate	District	Sub-district	City & Town	1981	1994	2004	2010	2015	2020	2025	Annual Growth Rate (%)
	Drekiesh	Total			54,709	60,978	65,100	68,300	71,400	74,400	1.09
		Drekiesh			24,865	28,749	31,400	33,500	35,500	37,400	1.46
		Juinet Reslan			9,547	9,846	10,000	10,100	10,200	10,300	0.31
		Hemmin			7,849	8,679	9,200	9,600	10,000	10,400	1.01
		Dweir Reslaan			12,448	13,704	14,500	15,100	15,700	16,300	0.97
	Al-Shriekh Bader	Total			46,575	52,981	57,300	60,800	64,100	67,200	1.30
		Al-Shiek Bader			22,053	25,324	27,500	29,300	31,000	32,600	1.39
		Barmana Almshayha			12,464	13,562	14,300	14,900	15,400	15,900	0.85
		Kamsy			12,058	14,095	15,500	16,600	17,700	18,700	1.57

Table A7.1.3 Population Projection of Deir-Ez-zor Gov.

(Unit: person)

Governorate	District	Sub-district	City & Town	1981	1994	2004	2010	2015	2020	2025	Annual Growth Rate
Deir-Ez-zor	Total			408,357	711,375	1,004,747	1,239,800	1,433,400	1,618,200	1,793,700	3.51
	Deir-Ez-zor	Total			357,075	492,434	598,300	690,400	783,700	877,400	3.27
		Deir-Ez-zor			174,047	239,196	289,500	334,100	380,200	427,200	3.23
		Kasra			52,025	63,226	71,100	77,600	84,000	90,200	1.97
		Bsirah			28,591	40,236	49,400	57,600	66,200	75,000	3.48
		Mo Hasan			24,908	35,113	43,100	50,300	57,800	65,600	3.49
		Tebne			33,845	48,393	60,000	70,500	81,500	92,900	3.64
		Khsham			19,852	28,718	35,800	42,300	49,100	56,200	3.76
		Sawar			23,807	37,552	49,400	58,000	64,900	70,300	4.66
	Abu Kamal	Total			189,595	265,142	326,100	374,600	418,700	458,600	3.41
		Abu Kamal			68,913	92,031	109,500	124,800	140,400	156,200	2.94
		Hajeen			60,718	97,870	130,300	154,200	173,500	188,500	4.89
		Al-Jalaa			23,604	29,255	33,300	36,700	40,000	43,300	2.17
		Swseh			36,360	45,986	53,000	58,900	64,800	70,600	2.38
	Mayadin	Total			164,705	247,171	315,400	368,400	415,800	457,700	4.14
		Mayadin	Total		59,536	86,091	107,400	126,800	147,300	168,600	3.76
			Mayadin		26,151	44,028	60,200	72,400	82,400	90,300	5.35
			Taiba		7,432	6,061	7,600	8,700	9,500	10,100	3.76
			Makhan		5,538	10,086	12,600	14,300	15,700	16,700	3.76
		Zeban			42,294	65,079	84,300	98,100	109,200	117,700	4.40
		Asharah			62,875	96,001	123,700	143,500	159,300	171,400	4.32

Table A7.1.4 Population Projection of Hassakeh Gov.

(Unit: person)

Governorate	District	Sub-district	City & Town	1981	1994	2004	2010	2015	2020	2025	Annual Growth Rate
Hassakeh	Total			669,614	1,028,087	1,275,118	1,443,300	1,569,300	1,679,100	1,773,100	2.18
	Hassakeh	Total			371,698	480,394	549,800	602,200	647,900	687,200	2.60
		Hassakeh			200,638	251,570	288,200	315,600	339,300	359,600	2.29
		Tar Tamr			42,417	50,982	56,900	61,300	65,000	68,100	1.86
		Al-Shadadi			40,878	58,916	73,400	85,000	95,600	105,000	3.72
		Markada			31,430	34,745	36,900	38,400	39,700	40,700	1.01
		Beer Al Helow			32,159	38,833	43,500	46,900	49,800	52,300	1.90
		Al-Aarishe			24,176	30,544	35,200	38,700	41,700	44,300	2.37
		Al-Haowl				14,804	15,700	16,300	16,800	17,200	1.00
	Qameshli	Total			352,561	425,580	477,800	516,700	550,600	579,500	1.90
		Qameshli			183,138	232,095	267,600	294,300	317,700	337,700	2.40
		Tar Hamees			56,545	71,699	82,700	90,900	98,100	104,300	2.40
		Amoda			50,457	56,101	59,800	62,400	64,600	66,400	1.07
		Al-Kahtanieh			62,421	65,685	67,700	69,100	70,200	71,100	0.51
	Malikieh	Total			166,165	191,994	209,400	221,900	232,500	241,400	1.46
		Malikieh	Total		99,822	112,000	120,000	125,700	130,400	134,300	1.16
			Malkieh		22,182	26,311	29,100	31,200	33,000	34,500	1.72
		Al-Jawadieh			35,208	40,535	44,100	46,700	48,900	50,700	1.42
		Al-Yarobieh			31,135	39,459	45,500	50,000	54,000	57,400	2.40
	Ras Al Ayen	Total			137,663	177,150	206,300	228,500	248,100	265,000	2.55
		Ras Al Ayn			91,873	121,536	143,800	160,900	176,100	189,300	2.84
		Derbasieh			45,790	55,614	62,500	67,600	72,000	75,700	1.96

Table A7.1.5 Population Projection of Raqqa Gov.

(Unit: person)

Governorate	District	Sub-district	City & Town	1981	1994	2004	2010	2015	2020	2025	Annual Growth Rate
Raqqa	Total			349,848	553,395	793,514	968,500	1,130,000	1,303,800	1,492,500	3.67
	Raqqa	Total			353,529	503,960	600,200	688,800	785,900	893,900	3.61
		Raqqa			248,327	338,773	408,100	476,600	556,500	649,800	3.15
		Al-Sabkha			56,224	48,106	51,100	53,700	56,400	59,300	1.00
		Al-Karameh			48,978	74,429	95,700	110,900	123,000	132,200	4.27
		Ma'adan				42,652	45,300	47,600	50,000	52,600	1.00
	Tal Abyad	Total			95,213	129,714	156,400	183,000	214,200	251,000	3.14
		Tal Abyad			35,094	44,671	51,600	58,200	65,700	74,100	2.44
		Slouk			32,148	44,131	53,400	62,600	73,300	85,900	3.22
		Ain Eisa			27,971	40,912	51,400	62,200	75,200	91,000	3.88
	Thawra	Total			104,653	159,840	211,900	258,200	303,700	347,600	4.33
		Thawra	Thawra		54,473	69,425	80,300	90,700	102,400	115,600	2.46
		Mansorah			27,125	58,727	93,300	122,600	148,700	170,300	8.03
		Al-Jarnieh			23,055	31,688	38,300	44,900	52,600	61,700	3.23

Table A7.1.6 Population Projection of Dar'aa Gov.

(Unit: person)

Governorate	District	Sub-district	City & Town	1981	1994	2004	2010	2015	2020	2025	Annual Growth Rate
Dar'aa	Total			362,798	608,614	843,478	1,020,500	1,171,700	1,321,100	1,468,500	3.32
	Dar'aa	Total			310,946	428,681	512,300	588,300	668,200	751,800	3.26
		Dar'aa	Total		112,361	146,481	171,800	196,200	224,000	255,800	2.69
			Dar'aa		75,586	97,969	114,500	128,700	143,000	157,300	2.63
			Atman		5,942	8,929	11,400	13,200	14,600	15,700	4.16
											0.00
		Bosra Al-Cham			50,287	33,839	35,900	37,500	39,000	40,400	1.00
		Kherbet Ghazal			30,008	44,266	55,900	66,600	78,000	89,900	3.96
		Alshjira			23,706	34,206	42,600	50,300	58,400	66,800	3.73
		Da'el			31,544	43,691	53,100	61,500	70,200	79,100	3.31
		Muzerib	Total		52,882	72,625	87,800	101,300	115,200	129,400	3.22
			Tafase		20,813	32,236	41,900	48,900	54,500	58,800	4.47
			Muzerib		10,476	12,640	14,200	15,500	16,700	17,900	1.90
			Yaduda		7,426	8,967	10,000	10,900	11,800	12,600	1.90
		Al-Jyza			10,158	21,100	32,700	42,400	50,900	57,900	7.58
		Al-Mysyfra				32,473	32,500	32,500	32,500	32,500	0.00
	Al-Sanameen	Total			120,989	167,882	206,000	237,100	265,900	292,200	3.33
		Al-Sanameen			87,800	113,316	132,000	148,000	164,100	180,100	2.58
		Mesmeih			7,002	8,773	10,000	11,100	12,200	13,300	2.28
		Ghaba Gheb			26,187	45,793	64,000	78,000	89,600	98,800	5.75
	Ezra'a	Total			176,679	246,915	302,200	346,300	387,000	424,500	3.40
		Ezra'a			42,564	56,760	67,500	76,900	86,500	96,100	2.92
		Ghasem			28,543	39,624	48,200	55,900	63,900	72,100	3.33
		Al-Harak			27,341	40,979	52,200	60,200	66,500	71,300	4.13
		Nawa			38,504	57,404	72,900	83,900	92,600	99,300	4.07
		Al-Sheikh Mskeen			26,008	34,370	40,600	46,000	51,500	57,100	2.83
		Tseel			13,719	17,778	20,800	23,400	26,000	28,600	2.63

Table A7.1.7-1 Population Projection of Rural Damascus Gov. (1)

(Unit: person)

Governorate	District	Sub-district	City & Town	1981	1994	2004	2010	2015	2020	2025	Annual Growth Rate (%)
Rural Damascus	Total			918,551	1,646,744	2,273,074	2,855,400	3,358,900	3,909,000	4,500,700	3.46
	Damascus	Total			601,442	902,216	1,132,200	1,331,300	1,537,800	1,751,000	3.21
		Al Keswe			82,137	112,095	162,600	200,800	246,500	300,500	4.81
		Babyla			220,291	341,625	425,800	493,400	552,300	600,400	2.72
		Jaramana			68,329	114,363	114,700	127,600	139,500	149,900	1.30
		Mleha			40,452	56,652	76,500	92,100	109,900	129,900	4.03
		Kafr Batna			77,219	123,474	138,200	159,400	180,300	200,300	2.33
		Erbeen			61,354	89,595	100,300	108,700	115,400	120,400	1.42
		Qadsaya			51,660	64,412	114,100	149,300	193,900	249,600	6.66
	Doma	Total			324,792	433,719	574,200	669,500	772,600	880,300	3.56
		Doma			145,568	181,934	292,500	359,200	429,600	500,000	4.93
		Harasta			64,251	88,816	112,700	137,100	166,000	199,700	3.93
		Al-Dhmeer			23,683	26,192	27,800	28,900	29,900	30,700	1.01
		Al-Nashabieh			38,664	76,814	80,000	82,000	84,000	86,000	0.54
		Haran Al-Awameed			26,008	22,853	23,200	23,600	23,800	24,000	0.23
		Al-Chzlanieh			25,974	36,715	37,600	38,200	38,700	39,200	0.31
		Al-Sabe Biar			644	395	400	500	600	700	-
	Al-Qotifeh	Total			96,254	119,283	146,100	166,800	188,000	210,000	3.40
		Al-Qotifeh			37,213	44,820	58,100	67,700	78,400	90,200	3.39
		Jairoud			24,471	31,821	37,200	41,300	44,900	48,000	2.66
		Al-Rohaibeh			23,107	30,450	35,900	40,100	43,800	47,000	2.80
		Mallola			11,463	12,192	14,900	17,700	20,900	24,800	3.44
	Al-Tal	Total			95,903	115,937	162,400	213,400	280,700	370,000	5.68
		Al-Tall			68,929	85,933	121,700	164,400	222,100	300,000	6.13
		Sednaya			17,157	18,846	25,000	29,500	34,400	40,000	3.65
		Rankous			9,817	11,158	15,700	19,500	24,200	30,000	4.82
	Yabroud	Total			38,822	48,370	55,400	60,800	65,400	69,400	2.22
		Yabrood			30,455	39,604	46,400	51,600	56,100	60,000	2.66
		Asal Al Ward			8,367	8,766	9,000	9,200	9,300	9,400	0.47

Table A7.1.7-2 Population Projection of Rural Damascus Gov. (2)

(Unit: person)

Governorate	District	Sub-district	City & Town	1981	1994	2004	2010	2015	2020	2025	Annual Growth Rate (%)
	Al-Nabek	Total			65,850	80,001	90,000	97,300	103,600	108,900	1.97
		Al-Nabek			40,900	50,747	57,800	63,000	67,500	71,300	2.18
		Deir Atteih			24,950	29,254	32,200	34,300	36,100	37,600	1.60
	Zabadani	Total			82,235	105,342	115,800	123,700	130,400	136,300	1.37
		Zabadani	Total		34,216	40,613	46,600	51,100	54,900	58,200	1.89
			Zabadani		21,049	26,285	30,000	32,800	35,200	37,300	2.25
			Bloudan		4,685	3,101	3,300	3,400	3,500	3,600	1.00
			Rawdah		2,825	4,536	6,000	7,100	8,000	8,700	4.85
			Suku Wady Barada		3,165	3,678	4,000	4,200	4,400	4,600	1.51
			Kafer Awamid		1,287	1,588	1,800	2,000	2,100	2,200	2.12
			Bal Habia		776	821	800	800	800	800	0.57
			Hosh Bajet		429	604	700	800	900	1,000	3.48
		Al-Dimas			10,159	21,978	23,000	23,900	24,700	25,500	0.71
		Ain Fejeh			15,851	19,584	21,400	22,800	23,900	24,900	1.15
		Madaya	Total		12,388	13,692	14,500	15,100	15,600	16,000	
			Madaya		8,649	9,371	9,800	10,100	10,400	10,600	0.80
			Haryra		1,993	2,455	2,800	3,000	3,200	3,400	2.11
			Bukein		1,746	1,866	1,900	2,000	2,000	2,000	0.67
		Serghaya	Total		9,621	9,475	10,300	10,800	11,300	11,700	0.16
			Surghya		8,038	7,501	8,000	8,300	8,600	8,800	1.00
			Ain Hour		1,583	1,974	2,300	2,500	2,700	2,900	2.23
	Qatana	Total			159,643	207,245	269,000	337,100	423,800	534,300	4.61
		Qatana			112,871	146,344	197,800	255,200	329,300	425,000	5.21
		Bait Jin			12,661	15,668	21,100	26,100	32,300	40,000	4.56
		Sa'sa			34,111	45,233	50,100	55,800	62,200	69,300	2.05
	Daria	Total			181,803	260,961	310,300	359,000	406,700	440,500	2.52
		Daria			159,050	131,501	172,000	213,000	253,000	280,200	3.67
		Sehnaya			22,753	44,512	52,000	58,500	65,000	70,400	2.21
		Al Hajar Al Aswad				84,948	86,300	87,500	88,700	89,900	0.27

Table A7.1.8 Regressive Projection of Population in Syria

			y=aX+b	y=a*X^b	y=a+bLnX	y=a*e^bX
X		(a)	384,803	53.055	-145,919,379	814,014
		(b)	-22,203,670	2.742	35,230,636	0.030
		(R)	0.999	1.000	0.997	0.998
		(R*R)	0.999	0.999	0.995	0.997
Number	Year	Record	Linear	Geometric	Logarithm	Exponent
81	1981	9,046,144				
94	1994	13,782,119				
104	2004	17,920,844				
110	2010		20,124,692	21,014,865	19,681,532	21,716,247
115	2015		22,048,708	23,739,098	21,247,596	25,212,151
120	2020		23,972,724	26,677,705	22,746,998	29,270,830
125	2025		25,896,741	29,837,565	24,185,183	33,982,879

Table A7.1.9 Regressive Projection of Population in Lattakia Gov.

			y=aX+b	y=a*X^b	y=a+bLnX	y=a*e^bX
X		(a)	14,299	143.405	-5,215,464	106,509
		(b)	-603,930	1.880	1,312,311	0.020
		(R)	0.999	0.998	1.000	0.996
		(R*R)	0.999	0.996	1.000	0.991
Number	Year	Record	Linear	Geometric	Logarithm	Exponent
81	1981	551,508				
94	1994	746,533				
104	2004	879,551				
110	2010		968,945	986,924	953,028	1,008,937
115	2015		1,040,439	1,072,942	1,011,362	1,117,505
120	2020		1,111,933	1,162,316	1,067,214	1,237,755
125	2025		1,183,428	1,255,028	1,120,785	1,370,945

Table A7.1.10 Regressive Projection of Population in Tartous Gov.

			y=aX+b	y=a*X^b	y=a+bLnX	y=a*e^bX
X		(a)	11,221	136.021	-4,078,618	87,941
		(b)	-466,218	1.841	1,028,405	0.020
		(R)	1.000	1.000	0.999	0.998
		(R*R)	1.000	1.000	0.998	0.997
Number	Year	Record	Linear	Geometric	Logarithm	Exponent
81	1981	443,167				
94	1994	587,516				
104	2004	701,395				
110	2010		768,121	780,312	755,378	797,723
115	2015		824,227	846,863	801,093	881,825
120	2020		880,334	915,894	844,861	974,793
125	2025		936,440	987,389	886,843	1,077,562

Table A7.1.11 Regressive Projection of Population in Deir-Ez-zor Gov.

			y=aX+b	y=a*X^b	y=a+bLnX	y=a*e^bX
X		(a)	25,802	0.053	-9,975,838	17,126
		(b)	-1,691,418	3.612	2,359,864	0.039
		(R)	0.998	1.000	0.995	0.998
		(R*R)	0.996	0.999	0.990	0.997
Number	Year	Record	Linear	Geometric	Logarithm	Exponent
81	1981	408,357				
94	1994	711,375				
104	2004	1,004,747				
110	2010		1,146,792	1,239,518	1,116,657	1,294,272
115	2015		1,275,802	1,455,385	1,221,557	1,575,455
120	2020		1,404,811	1,697,209	1,321,992	1,917,726
125	2025		1,533,821	1,966,831	1,418,326	2,334,355

Table A7.1.12 Regressive Projection of Population in Hassakeh Gov.

			y=aX+b	y=a*X^b	y=a+bLnX	y=a*e^bX
X		(a)	26,387	7.405	-9,972,172	69,222
		(b)	-1,463,078	2.600	2,421,514	0.028
		(R)	1.000	0.997	1.000	0.994
		(R*R)	0.999	0.994	1.000	0.987
Number	Year	Record	Linear	Geometric	Logarithm	Exponent
81	1981	669,614				
94	1994	1,028,087				
104	2004	1,275,118				
110	2010		1,439,523	1,501,670	1,410,109	1,547,692
115	2015		1,571,460	1,685,631	1,517,749	1,782,472
120	2020		1,703,396	1,882,843	1,620,808	2,052,868
125	2025		1,835,333	2,093,650	1,719,659	2,364,281

Table A7.1.13 Regressive Projection of Population in Raqqa Gov.

			y=aX+b	y=a*X^b	y=a+bLnX	y=a*e^bX
X		(a)	19,112	0.207	-7,332,589	19557.562
		(b)	-1,211,859	3.262	1,744,536	0.036
		(R)	0.992	0.999	0.988	1.000
		(R*R)	0.985	0.998	0.975	1.000
Number	Year	Record	Linear	Geometric	Logarithm	Exponent
81	1981	349,848				
94	1994	553,395				
104	2004	793,514				
110	2010		890,495	941,998	867,569	980,829
115	2015		986,056	1,088,988	945,116	1,171,868
120	2020		1,081,618	1,251,168	1,019,363	1,400,117
125	2025		1,177,179	1,429,376	1,090,578	1,672,821

Table A7.1.14 Regressive Projection of Population in Dar'aa Gov.

			y=aX+b	y=a*X^b	y=a+bLnX	y=a*e^bX
X		(a)	18,428	0.405	-7,067,024	23795.883
		(b)	-1,127,977	3.122	1,690,350	0.034
		(R)	1.000	0.997	1.000	0.993
		(R*R)	1.000	0.993	1.000	0.986
Number	Year	Record	Linear	Geometric	Logarithm	Exponent
81	1981	362,798				
94	1994	608,613				
104	2004	786,074				
110	2010		899,105	957,649	878,431	992,928
115	2015		991,245	1,100,222	953,570	1,176,449
120	2020		1,083,385	1,256,576	1,025,511	1,393,889
125	2025		1,175,525	1,427,385	1,094,514	1,651,519

Table A7.1.15 Regressive Projection of Population in Rural Damascus Gov.

			y=aX+b	y=a*X^b	y=a+bLnX	y=a*e^bX
X		(a)	58,752	0.102	-22,743,861	37,736
		(b)	-3,851,116	3.647	5,379,858	0.040
		(R)	0.999	0.998	0.998	0.996
		(R*R)	0.999	0.997	0.996	0.992
Number	Year	Record	Linear	Geometric	Logarithm	Exponent
81	1981	918,551				
94	1994	1,646,744				
104	2004	2,273,074				
110	2010		2,611,568	2,837,826	2,544,054	2,962,267
115	2015		2,905,327	3,337,337	2,783,198	3,612,057
120	2020		3,199,085	3,897,779	3,012,163	4,404,382
125	2025		3,492,843	4,523,576	3,231,780	5,370,508

Appendix for Chapter 8

Appendix 8.1 Summary of Discharge, Runoff and Industrial Wastewater

Table A8.1.1 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Present: 2006)

Dra'a

Compartmentation of Pollution Load				Flame in 2006	Basic Unit for Discharge Load in 2006				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2006 (kg/day)				Runoff Rate	Runoff Load in 2006 (kg/day)				Infiltration Load in 2006 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	383,056																			
			Pit Latrine	460,422	23.9	41.3	1.5	1.3			10,985.9	18,992.4	698.7	611.4	0.10	1,098.6	1,899.2	69.9	61.1	9,887.3	17,093.2	628.8	550.2
		Tourist	Hotel Guest	22	32.3	56.1	7.7	2.6			0.7	1.2	0.2	0.1		0.1	0.1	0.0	0.0	0.6	1.1	0.1	0.0
		Total									10,986.6	18,993.6	698.8	611.4		1,098.7	1,899.4	69.9	61.1	9,887.9	17,094.3	628.9	550.3
	Sewerage System	Untreated Sewerage (Pipe Laying)		381,056	38.0	66.0	9.0	3.0			14,480.1	25,149.7	3,429.5	1,143.2	1.00	14,480.1	25,149.7	3,429.5	1,143.2	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		2,000	3.8	9.9	5.4	3.0			7.6	19.8	10.8	6.0		7.6	19.8	10.8	6.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		0	90.0%	85.0%	40.0%	0.0%			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									14,487.7	25,169.5	3,440.3	1,149.2		14,487.7	25,169.5	3,440.3	1,149.2	0.0	0.0	0.0	0.0
	Industry	Private		1,881	2306.3	12995.2	162.1	115.1			2,306.3	12,995.2	162.1	115.1	0.80	1,845.0	10,396.2	129.7	92.1	461.3	2,599.0	32.4	23.0
		Public		0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									2,306.3	12,995.2	162.1	115.1		1,845.0	10,396.2	129.7	92.1	461.3	2,599.0	32.4	23.0
	Total										27,780.6	57,158.3	4,301.2	1,875.7		17,431.4	37,465.0	3,639.9	1,302.4	10,349.2	19,693.3	661.4	573.3
Non-Point Load	Land Use System	Forest		9,757	0.0057	0.0115	0.00227	0.00006	214		32.9	65.8	13.0	0.3	0.10	3.3	6.6	1.3	0.0	29.6	59.2	11.7	0.3
		Building and Road		75,367	0.0773	0.1545	0.00327	0.00144	214		3,414.0	6,827.9	144.3	63.4	0.30	1,024.2	2,048.4	43.3	19.0	2,389.8	4,779.5	101.0	44.4
		Irrigated Land		33,030	0.0446	0.0892	0.00828	0.00075	214	660	3,527.4	7,054.9	654.9	59.5	0.10	352.7	705.5	65.5	5.9	3,174.7	6,349.4	589.4	53.5
		Non-irrigated Land		125,736	0.0446	0.0892	0.00828	0.00075	214		3,287.9	6,575.7	610.4	55.4	0.10	328.8	657.6	61.0	5.5	2,959.1	5,918.2	549.4	49.9
		Total									10,262.1	20,524.3	1,422.6	178.7		1,709.0	3,418.0	171.1	30.6	8,553.1	17,106.3	1,251.5	148.1
	Live Stock System	Catle		38,857	0.0044	0.0217	0.00242	0.00042	214		36.7	180.2	20.1	3.5	0.10	3.7	18.0	2.0	0.3	33.1	162.2	18.1	3.1
		Seep and Goat		417,179	0.0011	0.0054	0.00061	0.00010	214		96.7	483.6	54.3	9.3		9.7	48.4	5.4	0.9	87.0	435.2	48.9	8.4
		Total									133.4	663.7	74.4	12.8		13.3	66.4	7.4	1.3	120.1	597.4	67.0	11.5
	Total										10,395.6	21,188.0	1,497.0	191.4		1,722.4	3,484.4	178.6	31.8	8,673.2	17,703.7	1,318.4	159.6
Total											38,176.2	78,346.4	5,798.2	2,067.1		19,153.8	40,949.4	3,818.4	1,334.2	19,022.4	37,397.0	1,979.8	732.9

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

107,316 1.242083

Point-Load/Total-Load: 0.91 0.91 0.95 0.98

Infiltration/Runoff: 1.0 0.9 0.5 0.5

Rural Damascus

Compartmentation of Pollution Load				Flame in 2006	Basic Unit for Discharge Load in 2006				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2006 (kg/day)				Runoff Rate	Runoff Load in 2006 (kg/day)				Infiltration Load in 2006 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	1,609,125																			
			Pit Latrine	663,949	23.9	41.3	1.5	1.3			15,842.1	27,387.9	1,007.5	881.6	0.10	1,584.2	2,738.8	100.8	88.2	14,257.9	24,649.1	906.8	793.5
		Tourist	Hotel Guest	209	32.3	56.1	7.7	2.6			6.7	11.7	1.6	0.5		0.7	1.2	0.2	0.1	6.1	10.5	1.4	0.5
		Total									15,848.9	27,399.6	1,009.1	882.2		1,584.9	2,740.0	100.9	88.2	14,264.0	24,659.6	908.2	794.0
	Sewerage System	Untreated Sewerage (Pipe Laying)		1,278,125	38.0	66.0	9.0	3.0			48,568.8	84,356.3	11,503.1	3,834.4	1.00	48,568.8	84,356.3	11,503.1	3,834.4	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		331,000	3.8	9.9	5.4	3.0			1,257.8	3,276.9	1,787.4	993.0		1,257.8	3,276.9	1,787.4	993.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		2,875	90.0%	85.0%	40.0%	0.0%			224.1	1,831.5	89.8	76.5		224.1	1,831.5	89.8	76.5	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									50,050.6	89,464.7	13,380.4	4,903.9		50,050.6	89,464.7	13,380.4	4,903.9	0.0	0.0	0.0	0.0
	Industry	Private		19,689	15,347.0	83,631.2	1,025.6	524.2			13,106.0	71,421.0	876.0	448.0	0.80	10,484.8	57,136.8	700.8	358.4	2,621.2	14,284.2	175.2	89.6
		Public		8,647	4,474.0	24,842.0	490.0	112.0			4,248.0	23,695.0	448.0	104.0	0.80	3,398.4	18,956.0	358.4	83.2	849.6	4,739.0	89.6	20.8
		Total									17,354.0	95,116.0	1,324.0	552.0		13,883.2	76,092.8	1,059.2	441.6	3,470.8	19,023.2	264.8	110.4
	Total										83,253.5	211,980.3	15,713.5	6,338.1		65,518.7	168,297.4	14,540.5	5,433.7	17,734.8	43,682.8	1,173.0	904.4
Non-Point Load	Land Use System	Forest		57,249	0.0057	0.0115	0.00227	0.00006	111		100.1	200.2	39.5	1.0	0.10	10.0	20.0	3.9	0.1	90.1	180.1	35.5	0.9
		Building and Road		73,769	0.0773	0.1545	0.00327	0.00144	111		1,733.2	3,466.5	73.3	32.2	0.30	520.0	1,039.9	22.0	9.7	1,213.3	2,426.5	51.3	22.5
		Irrigated Land		74,583	0.0446	0.0892	0.00828	0.00075	111	990	10,033.9	20,067.9	1,862.8	169.2	0.10	1,003.4	2,006.8	186.3	16.9	9,030.5	18,061.1	1,676.5	152.3
		Non-irrigated Land		54,845	0.0446	0.0892	0.00828	0.00075	111		743.9	1,487.8	138.1	12.5	0.10	74.4	148.8	13.8	1.3	669.5	1,339.0	124.3	11.3
		Total									12,611.1	25,222.3	2,113.7	214.9		1,607.8	3,215.5	226.0	27.9	11,003.4	22,006.7	1,887.6	187.0
	Live Stock System	Catle		187,137	0.0044	0.0217	0.00242	0.00042	111		91.7	450.1	50.2	8.7	0.10	9.2	45.0	5.0	0.9	82.6	405.1	45.2	7.8
		Seep and Goat		1,567,629	0.0011	0.0054	0.00061	0.00010	111		188.5	942.5	105.9	18.1		18.9	94.3	10.6	1.8	169.7	848.3	95.3	16.3
		Total									280.3	1,392.6	156.1	26.8		28.0	139.3	15.6	2.7	252.2	1,253.3	140.4	24.1
	Total										12,891.4	26,614.9	2,269.7	241.7		1,635.8	3,354.8	241.6	30.6	11,255.6	23,260.1	2,028.1	211.1
Total											96,144.9	238,595.2	17,983.2	6,579.8		67,154.5	171,652.2	14,782.1	5,464.3	28,990.4	66,942.9	3,201.1	1,115.5

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

Point-Load/Total-Load: 0.98 0.98 0.98 0.99

Infiltration/Runoff: 0.4 0.4 0.2 0.2

Table A8.1.1 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Present: 2006)

Damascus City

Compartmentation of Pollution Load				Flame in 2006	Basic Unit for Discharge Load in 2006 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2006 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2006 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2006 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	1,552,161																			
			Pit Latrine	0	23.9	41.3	1.5	1.3			0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tourist	Hotel Guest	4,609	32.3	56.1	7.7	2.6			148.9	258.5	35.3	11.8		14.9	25.9	3.5	1.2	134.0	232.7	31.7	10.6
		Total									148.9	258.5	35.3	11.8		14.9	25.9	3.5	1.2	134.0	232.7	31.7	10.6
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		1,552,161	3.8	9.9	5.4	3.0			5,898.2	15,366.4	8,381.7	4,656.5		5,898.2	15,366.4	8,381.7	4,656.5	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		9,343	90.0%	85.0%	40.0%	0.0%			630.4	5,980.0	342.9	178.9		630.4	5,980.0	342.9	178.9	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									6,528.7	21,346.4	8,724.6	4,835.4		6,528.7	21,346.4	8,724.6	4,835.4	0.0	0.0	0.0	0.0
	Industry	Private		9,343	6,304.4	39,866.8	571.5	178.9			Connect to sewarage system with treatment plant				0.80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Public		6,698	2,025.0	16,141.0	269.0	80.0			606.0	7,777.0	163.0	22.0	0.80	484.8	6,221.6	130.4	17.6	121.2	1,555.4	32.6	4.4
		Total									606.0	7,777.0	163.0	22.0		484.8	6,221.6	130.4	17.6	121.2	1,555.4	32.6	4.4
	Total										7,283.5	29,382.0	8,922.8	4,869.1		7,028.3	27,593.9	8,858.5	4,854.2	255.2	1,788.1	64.3	15.0
Non-Point Load	Land Use System	Forest		1,090	0.0057	0.0115	0.00227	0.00006	184		3.2	6.3	1.2	0.0	0.10	0.3	0.6	0.1	0.0	2.8	5.7	1.1	0.0
		Building and Road		9,286	0.0773	0.1545	0.00327	0.00144	184		361.6	723.3	15.3	6.7	0.30	108.5	217.0	4.6	2.0	253.2	506.3	10.7	4.7
		Irrigated Land		1,411	0.0446	0.0892	0.00828	0.00075	184	990	202.4	404.8	37.6	3.4	0.10	20.2	40.5	3.8	0.3	182.2	364.3	33.8	3.1
		Non-irrigated Land		0	0.0446	0.0892	0.00828	0.00075	184		0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									567.2	1,134.4	54.1	10.2		129.1	258.1	8.5	2.4	438.2	876.3	45.6	7.8
	Live Stock System	Catle		19,020	0.0044	0.0217	0.00242	0.00042	184		15.5	75.8	8.5	1.5	0.10	1.5	7.6	0.8	0.1	13.9	68.2	7.6	1.3
		Seep and Goat		5,793	0.0011	0.0054	0.00061	0.00010	184		1.2	5.8	0.6	0.1		0.1	0.6	0.1	0.0	1.0	5.2	0.6	0.1
		Total									16.6	81.6	9.1	1.6		1.7	8.2	0.9	0.2	15.0	73.4	8.2	1.4
	Total										583.8	1,216.0	63.2	11.7		130.7	266.3	9.4	2.5	453.1	949.8	53.8	9.2
Total											7,867.3	30,598.0	8,986.0	4,880.9		7,159.1	27,860.1	8,867.9	4,856.7	708.3	2,737.9	118.2	24.2

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

Point-Load/Total-Load: 0.98 0.99 1.00 1.00
Infiltration/Runoff: 0.1 0.1 0.01 0.00

Tartous

Compartmentation of Pollution Load				Flame in 2006	Basic Unit for Discharge Load in 2006 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2006 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2006 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2006 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	410,048																			
			Pit Latrine	291,347	23.9	41.3	1.5	1.3			6,951.7	12,018.1	442.1	386.9	0.10	695.2	1,201.8	44.2	38.7	6,256.5	10,816.3	397.9	348.2
		Tourist	Hotel Guest	454	32.3	56.1	7.7	2.6			14.6		3.5	1.2		1.5	0.0	0.3	0.1	13.2	0.0	3.1	1.0
		Total									6,966.3	12,018.1	445.6	388.0		696.6	1,201.8	44.6	38.8	6,269.7	10,816.3	401.0	349.2
	Sewerage System	Untreated Sewerage (Pipe Laying)		408,178	38.0	66.0	9.0	3.0			15,510.8	26,939.7	3,673.6	1,224.5	1.00	15,510.8	26,939.7	3,673.6	1,224.5	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		1,870	3.8	9.9	5.4	3.0			7.1	18.5	10.1	5.6		7.1	18.5	10.1	5.6	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		0	90.0%	85.0%	40.0%	0.0%			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									15,517.9	26,958.3	3,683.7	1,230.1		15,517.9	26,958.3	3,683.7	1,230.1	0.0	0.0	0.0	0.0
	Industry	Private		1,911	4,635.2	32,564.0	833.9	745.6			4,635.2	32,564.0	833.9	745.6	0.80	3,708.2	26,051.2	667.1	596.5	927.0	6,512.8	166.8	149.1
		Public		119	3.0	108.0	0.0	0.0			3.0	108.0	0.0	0.0	0.80	2.4	86.4	0.0	0.0	0.6	21.6	0.0	0.0
		Total									4,638.2	32,672.0	833.9	745.6		3,710.6	26,137.6	667.1	596.5	927.6	6,534.4	166.8	149.1
	Total										27,122.4	71,648.3	4,963.2	2,363.8		19,925.1	54,297.7	4,395.4	1,865.4	7,197.3	17,350.7	567.8	498.3
Non-Point Load	Land Use System	Forest		32,364	0.0057	0.0115	0.00227	0.00006	802		408.8	817.6	161.3	4.1	0.10	40.9	81.8	16.1	0.4	367.9	735.8	145.2	3.7
		Building and Road		23,506	0.0773	0.1545	0.00327	0.00144	802		3,990.3	7,980.6	168.7	74.1	0.30	1,197.1	2,394.2	50.6	22.2	2,793.2	5,586.4	118.1	51.9
		Irrigated Land		27,288	0.0446	0.0892	0.00828	0.00075	802	500	4,341.4	8,682.8	806.0	73.2	0.10	434.1	868.3	80.6	7.3	3,907.3	7,814.5	725.4	65.9
		Non-irrigated Land		95,954	0.0446	0.0892	0.00828	0.00075	802		9,403.2	18,806.5	1,745.7	158.6	0.10	940.3	1,880.6	174.6	15.9	8,462.9	16,925.8	1,571.1	142.7
		Total									18,143.7	36,287.5	2,881.7	310.0		2,612.4	5,224.9	321.9	45.8	15,531.3	31,062.6	2,559.8	264.1
	Live Stock System	Catle		44,889	0.0044	0.0217	0.00242	0.00042	802		159.0	780.0	87.0	15.0	0.10	15.9	78.0	8.7	1.5	143.1	702.0	78.3	13.5
		Seep and Goat		26,531	0.0011	0.0054	0.00061	0.00010	802		23.1	115.3	12.9	2.2		2.3	11.5	1.3	0.2	20.7	103.7	11.6	2.0
		Total									182.1	182.1	182.1	182.1		18.2	89.5	10.0	1.7	163.9	805.8	90.0	15.5
	Total										18,325.8	36,469.5	3,063.8	492.0		2,630.6	5,314.4	331.9	47.5	15,695.1	31,868.3	2,649.7	279.6
Total											45,448.2	108,117.8	8,026.9	2,855.8		22,555.7	59,612.1	4,727.3	1,913.0	22,892.5	49,219.0	3,217.5	778.0

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)
87,674 89704.28 1.038244

Point-Load/Total-Load: 0.88 0.91 0.93 0.98
Infiltration/Runoff: 1.0 0.8 0.7 0.4

Table A8.1.1 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Present: 2006)

Lattakia

Compartmentation of Pollution Load				Flame in 2006	Basic Unit for Discharge Load in 2006				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2006 (kg/day)				Runoff Rate	Runoff Load in 2006 (kg/day)				Infiltration Load in 2006 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	538,935																			
			Pit Latrine	340,616	23.9	41.3	1.5	1.3			8,127.3	14,050.4	516.9	452.3	0.10	812.7	1,405.0	51.7	45.2	7,314.5	12,645.4	465.2	407.1
		Tourist	Hotel Guest	942	32.3	56.1	7.7	2.6			30.4	52.8	7.2	2.4		3.0	5.3	0.7	0.2	27.4	47.6	6.5	2.2
		Total									8,157.7	14,103.3	524.1	454.7		815.8	1,410.3	52.4	45.5	7,341.9	12,692.9	471.7	409.2
	Sewerage System	Untreated Sewerage (Pipe Laying)		538,935	38.0	66.0	9.0	3.0			20,479.5	35,569.7	4,850.4	1,616.8	1.00	20,479.5	35,569.7	4,850.4	1,616.8	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		0	3.8	9.9	5.4	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		0	90.0%	85.0%	40.0%	0.0%			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									20,479.5	35,569.7	4,850.4	1,616.8		20,479.5	35,569.7	4,850.4	1,616.8	0.0	0.0	0.0	0.0
	Industry	Private		2,775	4,273.7	27,098.0	597.1	484.6			4,273.7	27,098.0	597.1	484.6	0.80	3,419.0	21,678.4	477.7	387.7	854.7	5,419.6	119.4	96.9
		Public		1,493	754.0	4,746.0	96.0	14.0			682.0	4,011.0	80.0	12.0	0.80	545.6	3,208.8	64.0	9.6	136.4	802.2	16.0	2.4
		Total									4,955.7	31,109.0	677.1	496.6		3,964.6	24,887.2	541.7	397.3	991.1	6,221.8	135.4	99.3
	Total										33,592.9	80,782.0	6,051.6	2,568.1		25,259.9	61,867.2	5,444.5	2,059.6	8,333.1	18,914.7	607.1	508.5
Non-Point Load	Land Use System	Forest		88,420	0.0057	0.0115	0.00227	0.00006	710		988.7	1,977.4	390.1	9.8	0.10	98.9	197.7	39.0	1.0	889.8	1,779.6	351.1	8.9
		Building and Road		23,565	0.0773	0.1545	0.00327	0.00144	710		3,541.5	7,083.1	149.7	65.8	0.30	1,062.5	2,124.9	44.9	19.7	2,479.1	4,958.2	104.8	46.1
		Irrigated Land		30,636	0.0446	0.0892	0.00828	0.00075	710	500	4,529.6	9,059.3	840.9	76.4	0.10	453.0	905.9	84.1	7.6	4,076.7	8,153.4	756.8	68.7
		Non-irrigated Land		62,896	0.0446	0.0892	0.00828	0.00075	710		5,456.6	10,913.3	1,013.0	92.0	0.10	545.7	1,091.3	101.3	9.2	4,911.0	9,822.0	911.7	82.8
		Total							710		14,516.5	29,033.1	2,393.8	244.0		2,160.0	4,319.9	269.3	37.6	12,356.6	24,713.1	2,124.5	206.5
	Live Stock System	Catle		47,164	0.0044	0.0217	0.00242	0.00042	710		147.9	725.5	80.9	14.0	0.10	14.8	72.6	8.1	1.4	133.1	653.0	72.8	12.6
		Seep and Goat		18,630	0.0011	0.0054	0.00061	0.00010	710		14.3	71.6	8.0	1.4		1.4	7.2	0.8	0.1	12.9	64.5	7.2	1.2
		Total									162.2	797.2	89.0	15.3		16.2	79.7	8.9	1.5	146.0	717.5	80.1	13.8
	Total										14,678.8	29,830.2	2,482.8	259.4		2,176.2	4,399.6	278.2	39.1	12,502.6	25,430.6	2,204.6	220.3
Total											48,271.7	110,612.2	8,534.4	2,827.5		27,436.0	66,266.9	5,722.7	2,098.6	20,835.6	44,345.3	2,811.6	728.8

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

109,944 114,211 1.321891

Point-Load/Total-Load				Infiltration/Runoff			
0.92	0.93	0.95	0.98	0.8	0.7	0.5	0.3

Raqqa

Compartmentation of Pollution Load				Flame in 2006	Basic Unit for Discharge Load in 2006				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2006 (kg/day)				Runoff Rate	Runoff Load in 2006 (kg/day)				Infiltration Load in 2006 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	249,771																			
			Pit Latrine	543,743	23.9	41.3	1.5	1.3			12,974.0	22,429.4	825.1	722.0	0.10	1,297.4	2,242.9	82.5	72.2	11,676.6	20,186.5	742.6	649.8
		Tourist	Hotel Guest	69	32.3	56.1	7.7	2.6			2.2	3.9	0.5	0.2		0.2	0.4	0.1	0.0	2.0	3.5	0.5	0.2
		Total									12,976.2	22,433.3	825.6	722.2		1,297.6	2,243.3	82.6	72.2	11,678.6	20,189.9	743.1	650.0
	Sewerage System	Untreated Sewerage (Pipe Laying)		244,623	38.0	66.0	9.0	3.0			9,295.7	16,145.1	2,201.6	733.9	1.00	9,295.7	16,145.1	2,201.6	733.9	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		5,148	3.8	9.9	5.4	3.0			19.6	51.0	27.8	15.4		19.6	51.0	27.8	15.4	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		0	90.0%	85.0%	40.0%	0.0%			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									9,315.2	16,196.1	2,229.4	749.3		9,315.2	16,196.1	2,229.4	749.3	0.0	0.0	0.0	0.0
	Industry	Private		937	767.2	4,512.4	55.8	15.1			767.2	4,512.4	55.8	15.1	0.80	613.8	3,609.9	44.6	12.1	3,158.7	902.5	11.2	3.0
		Public		11,600	16,240.0	23,200.0	290.0	64.0			4,165.0	7,100.0	104.0	23.0	0.80	3,332.0	5,680.0	83.2	18.4	833.0	1,420.0	20.8	4.6
		Total									4,932.2	11,612.4	159.8	38.1		3,945.8	9,289.9	127.8	30.5	3,991.7	2,322.5	32.0	7.6
	Total										27,223.6	50,241.7	3,214.8	1,509.6		14,558.6	27,729.3	2,439.8	852.0	15,670.2	22,512.4	775.0	657.6
Non-Point Load	Land Use System	Forest		16,484	0.0057	0.0115	0.00227	0.00006	169		43.9	87.7	17.3	0.4	0.10	4.4	8.8	1.7	0.0	39.5	79.0	15.6	0.4
		Building and Road		65,553	0.0773	0.1545	0.00327	0.00144	169		2,345.0	4,690.0	99.1	43.6	0.30	703.5	1,407.0	29.7	13.1	1,641.5	3,283.0	69.4	30.5
		Irrigated Land		199,751	0.0446	0.0892	0.00828	0.00075	169	1100	30,973.7	61,947.4	5,750.3	522.3	0.10	3,097.4	6,194.7	575.0	52.2	27,876.3	55,752.7	5,175.2	470.1
		Non-irrigated Land		355,674	0.0446	0.0892	0.00828	0.00075	169		7,344.8	14,689.6	1,363.6	123.9	0.10	734.5	1,469.0	136.4	12.4	6,610.3	13,220.7	1,227.2	111.5
		Total									40,707.4	81,414.8	7,230.3	690.2		4,539.7	9,079.5	742.9	77.7	36,167.6	72,335.3	6,487.4	612.4
	Live Stock System	Catle		16,198	0.0044	0.0217	0.00242	0.00042	169		12.1	59.3	6.6	1.1	0.10	1.2	5.9	0.7	0.1	10.9	53.4	6.0	1.0
		Seep and Goat		2,205,020	0.0011	0.0054	0.00061	0.00010	169		403.7	2,018.5	226.7	38.8		40.4	201.9	22.7	3.9	363.3	1,816.7	204.0	34.9
		Total									415.8	2,077.8	233.3	40.0		41.6	207.8	23.3	4.0	374.2	1,870.0	210.0	36.0
	Total										41,123.2	83,492.6	7,463.6	730.1		4,581.3	9,287.3	766.2	81.7	36,541.9	74,205.3	6,697.4	648.4
Total											68,346.8	133,734.3	10,678.4	2,239.7		19,139.9	37,016.6	3,206.0	933.7	52,212.1	96,717.8	7,472.4	1,306.0

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

Point-Load/Total-Load				Infiltration/Runoff			
0.76	0.75	0.76	0.91	2.7	2.6	2.3	1.4

Table A8.1.1 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Present: 2006)

Dier-Ez-zor

Compartmentation of Pollution Load				Flame in 2006	Basic Unit for Discharge Load in 2006				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2006 (kg/day)				Runoff Rate	Runoff Load in 2006 (kg/day)				Infiltration Load in 2006 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	440,356																			
			Pit Latrine	564,391	23.9	41.3	1.5	1.3			13,466.6	23,281.1	856.4	749.4	0.10	1,346.7	2,328.1	85.6	74.9	12,120.0	20,953.0	770.8	674.5
		Tourist	Hotel Guest	132	32.3	56.1	7.7	2.6			4.3	7.4	1.0	0.3		0.4	0.7	0.1	0.0	3.8	6.7	0.9	0.3
		Total									13,470.9	23,288.5	857.4	749.8		1,347.1	2,328.9	85.7	75.0	12,123.8	20,959.7	771.7	674.8
	Sewerage System	Untreated Sewerage (Pipe Laying)		440,356	38.0	66.0	9.0	3.0			16,733.5	29,063.5	3,963.2	1,321.1		16,733.5	29,063.5	3,963.2	1,321.1	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		0	3.8	9.9	5.4	3.0			0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		0	90.0%	85.0%	40.0%	0.0%			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									16,733.5	29,063.5	3,963.2	1,321.1		16,733.5	29,063.5	3,963.2	1,321.1	0.0	0.0	0.0	0.0
	Industry	Private		971	1,237.6	5,126.0	53.0	22.4			1,237.6	5,126.0	53.0	22.4	0.80	990.1	4,100.8	42.4	17.9	247.5	1,025.2	10.6	4.5
		Public		14,910	14,272.0	26,087.0	89.0	391.0			10,755.0	21,304.0	79.0	315.0	0.80	8,604.0	17,043.2	63.2	252.0	2,151.0	4,260.8	15.8	63.0
		Total									11,992.6	26,430.0	132.0	337.4		9,594.1	21,144.0	105.6	269.9	2,398.5	5,286.0	26.4	67.5
	Total										42,197.0	78,782.0	4,952.6	2,408.2		27,674.7	52,536.4	4,154.5	1,666.0	14,522.3	26,245.7	798.1	742.3
Non-Point Load	Land Use System	Forest		8,176	0.0057	0.0115	0.00227	0.00006	149		19.2	38.4	7.6	0.2	0.10	1.9	3.8	0.8	0.0	17.3	34.5	6.8	0.2
		Building and Road		26,862	0.0773	0.1545	0.00327	0.00144	149		847.2	1,694.4	35.8	15.7	0.30	254.2	508.3	10.7	4.7	593.0	1,186.1	25.1	11.0
		Irrigated Land		147,479	0.0446	0.0892	0.00828	0.00075	149	1100	22,507.8	45,015.7	4,178.6	379.5	0.10	2,250.8	4,501.6	417.9	38.0	20,257.0	40,514.1	3,760.7	341.6
		Non-irrigated Land		36,991	0.0446	0.0892	0.00828	0.00075	149		673.5	1,347.0	125.0	11.4	0.10	67.3	134.7	12.5	1.1	606.1	1,212.3	112.5	10.2
		Total									24,047.7	48,095.4	4,347.0	406.8		2,574.2	5,148.4	441.9	43.8	21,473.5	42,947.0	3,905.1	363.0
	Live Stock System	Catle		211,966	0.0044	0.0217	0.00242	0.00042	149		139.5	684.3	76.3	13.2	0.10	13.9	68.4	7.6	1.3	125.5	615.9	68.7	11.8
		Seep and Goat		2,594,172	0.0011	0.0054	0.00061	0.00010	149		418.7	2,093.7	235.1	40.3		41.9	209.4	23.5	4.0	376.9	1,884.3	211.6	36.2
		Total									558.2	2,778.0	311.5	53.4		55.8	277.8	31.1	5.3	502.4	2,500.2	280.3	48.1
	Total										24,605.9	50,873.4	4,658.5	460.3		2,630.0	5,426.2	473.0	49.2	21,975.9	45,447.2	4,185.5	411.1
Total											66,803.0	129,655.5	9,611.1	2,868.5		30,304.7	57,962.6	4,627.6	1,715.1	36,498.2	71,692.9	4,983.6	1,153.4

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

Point-Load/Total-Load				Infiltration/Runoff			
BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
0.91	0.91	0.90	0.97	1.2	1.2	1.1	0.7

Hassakeh

Compartmentation of Pollution Load				Flame in 2006	Basic Unit for Discharge Load in 2006				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2006 (kg/day)				Runoff Rate	Runoff Load in 2006 (kg/day)				Infiltration Load in 2006 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	472,939																			
			Pit Latrine	802,179	23.9	41.3	1.5	1.3			19,140.4	33,089.9	1,217.3	1,065.2	0.10	1,914.0	3,309.0	121.7	106.5	17,226.3	29,780.9	1,095.5	958.7
		Tourist	Hotel Guest	187	32.3	56.1	7.7	2.6			6.0	10.5	1.4	0.5		0.6	1.0	0.1	0.0	5.4	9.4	1.3	0.4
		Total									19,146.4	33,100.4	1,218.7	1,065.7		1,914.6	3,310.0	121.9	106.6	17,231.8	29,790.3	1,096.8	959.1
	Sewerage System	Untreated Sewerage (Pipe Laying)		446,527	38.0	66.0	9.0	3.0			16,968.0	29,470.8	4,018.7	1,339.6		16,968.0	29,470.8	4,018.7	1,339.6	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		26,412	3.8	9.9	5.4	3.0			100.4	261.5	142.6	79.2	1.00	100.4	261.5	142.6	79.2	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		0	90.0%	85.0%	40.0%	0.0%			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									17,068.4	29,732.3	4,161.4	1,418.8		17,068.4	29,732.3	4,161.4	1,418.8	0.0	0.0	0.0	0.0
	Industry	Private		1,892	1,635.7	8,535.2	112.8	28.6			1,635.7	8,535.2	112.8	28.6	0.80	1,308.6	6,828.2	90.2	22.9	327.1	1,707.0	22.6	5.7
		Public		77	2.0	74.0	0.0	0.0			2.0	74.0	0.0	0.0	0.80	1.6	59.2	0.0	0.0	0.4	14.8	0.0	0.0
		Total									1,637.7	8,609.2	112.8	28.6		1,310.2	6,887.4	90.2	22.9	327.5	1,721.8	22.6	5.7
	Total										37,852.5	71,441.8	5,492.9	2,513.1		20,293.2	39,929.7	4,373.5	1,548.3	17,559.3	31,512.2	1,119.4	964.8
Non-Point Load	Land Use System	Forest		122,051	0.0057	0.0115	0.00227	0.00006	227		436.3	872.7	172.2	4.3	0.10	43.6	87.3	17.2	0.4	392.7	785.4	155.0	3.9
		Building and Road		65,072	0.0773	0.1545	0.00327	0.00144	227		3,126.7	6,253.4	132.2	58.1	0.30	938.0	1,876.0	39.7	17.4	2,188.7	4,377.4	92.5	40.7
		Irrigated Land		485,115	0.0446	0.0892	0.00828	0.00075	227	1000	72,732.9	145,465.9	13,502.9	1,226.5	0.10	7,273.3	14,546.6	1,350.3	122.6	65,459.7	130,919.3	12,152.6	1,103.8
		Non-irrigated Land		809,773	0.0446	0.0892	0.00828	0.00075	227		22,461.1	44,922.2	4,169.9	378.8	0.10	2,246.1	4,492.2	417.0	37.9	20,215.0	40,430.0	3,752.9	340.9
		Total									98,757.1	197,514.2	17,977.2	1,667.7		10,501.0	21,002.1	1,824.2	178.4	88,256.0	176,512.1	16,153.0	1,489.3
	Live Stock System	Catle		87,119	0.0044	0.0217	0.00242	0.00042	227		87.3	428.5	47.8	8.2	0.10	8.7	42.8	4.8	0.8	78.6	385.6	43.0	7.4
		Seep and Goat		2,054,435	0.0011	0.0054	0.00061	0.00010	227		505.2	2,526.1	283.7	48.6		50.5	252.6	28.4	4.9	454.7	2,273.5	255.3	43.7
		Total									592.6	2,954.6	331.5	56.8		59.3	295.5	33.1	5.7	533.3	2,659.1	298.3	51.1
	Total										99,349.6	200,468.7	18,308.7	1,724.5		10,560.3	21,297.6	1,857.3	184.1	88,789.3	179,171.2	16,451.4	1,540.4
Total											137,202.1	271,910.6	23,801.5	4,237.6		30,853.5	61,227.2	6,230.8	1,732.3	106,348.7	210,683.4	17,570.7	2,505.2

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

Point-Load/Total-Load				Infiltration/Runoff			
BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
0.66	0.65	0.70	0.89	3.4	3.4	2.8	1.4

Table A8.1.1 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Present: 2006)

Quneitra

Compartmentation of Pollution Load				Flame in 2006	Basic Unit for Discharge Load in 2006 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2006 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2006 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2006 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	35,002																			
			Pit Latrine	31,625	23.9	41.3	1.5	1.3			754.6	1,304.5	48.0	42.0	0.10	75.5	130.5	4.8	4.2	679.1	1,174.1	43.2	37.8
		Tourist	Hotel Guest	0	32.3	56.1	7.7	2.6			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									754.6	1,304.5	48.0	42.0		75.5	130.5	4.8	4.2	679.1	1,174.1	43.2	37.8
	Sewerage System	Untreated Sewerage (Pipe Laying)		35,002	38.0	66.0	9.0	3.0			1,330.1	2,310.1	315.0	105.0		1,330.1	2,310.1	315.0	105.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		0	3.8	9.9	5.4	3.0			0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		0	90.0%	85.0%	40.0%	0.0%			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									1,330.1	2,310.1	315.0	105.0		1,330.1	2,310.1	315.0	105.0	0.0	0.0	0.0	0.0
	Industry	Private		53	101.8	436.5	2.1	1.4			101.8	436.5	2.1	1.4	0.80	81.4	349.2	1.7	1.1	20.4	87.3	0.4	0.3
		Public		0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									101.8	436.5	2.1	1.4		81.4	349.2	1.7	1.1	20.4	87.3	0.4	0.3
	Total										2,186.5	4,051.2	365.1	148.4		1,487.0	2,789.8	321.5	110.3	699.5	1,261.4	43.6	38.1
Non-Point Load	Land Use System	Forest		3,310	0.0057	0.0115	0.00227	0.00006	214		11.2	22.3	4.4	0.1	0.10	1.1	2.2	0.4	0.0	10.0	20.1	4.0	0.1
		Building and Road		6,807	0.0773	0.1545	0.00327	0.00144	214		308.3	616.6	13.0	5.7	0.30	92.5	185.0	3.9	1.7	215.8	431.7	9.1	4.0
		Irrigated Land		4,533	0.0446	0.0892	0.00828	0.00075	214	660	484.1	968.2	89.9	8.2	0.10	48.4	96.8	9.0	0.8	435.7	871.4	80.9	7.3
		Non-irrigated Land		20,298	0.0446	0.0892	0.00828	0.00075	214		530.8	1,061.5	98.5	9.0	0.10	53.1	106.2	9.9	0.9	477.7	955.4	88.7	8.1
		Total									1,334.4	2,668.7	205.9	23.0		195.1	390.2	23.2	3.4	1,139.3	2,278.5	182.7	19.5
	Live Stock System	Catle		20,272	0.0044	0.0217	0.00242	0.00042	214		19.2	94.0	10.5	1.8		1.9	9.4	1.0	0.2	17.2	84.6	9.4	1.6
		Seep and Goat		137,784	0.0011	0.0054	0.00061	0.00010	214		31.9	159.7	17.9	3.1	0.10	3.2	16.0	1.8	0.3	28.7	143.7	16.1	2.8
		Total									51.1	253.7	28.4	4.9		5.1	25.4	2.8	0.5	46.0	228.3	25.6	4.4
	Total										1,385.5	2,922.4	234.3	27.8		200.2	415.6	26.0	3.9	1,185.3	2,506.9	208.2	23.9
Total											3,571.9	6,973.6	599.4	176.2		1,687.2	3,205.4	347.5	114.3	1,884.7	3,768.2	251.8	62.0

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

Point-Load/Total-Load: 0.88 0.87 0.93 0.97
Infiltration/Runoff: 1.1 1.2 0.7 0.5

Aleppo

Compartmentation of Pollution Load				Flame in 2006	Basic Unit for Discharge Load in 2006 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2006 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2006 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2006 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	3,324,772																			
			Pit Latrine	720,394	23.9	41.3	1.5	1.3			17,188.9	29,716.3	1,093.2	956.6	0.10	1,718.9	2,971.6	109.3	95.7	15,470.0	26,744.6	983.8	860.9
		Tourist	Hotel Guest	1,767	32.3	56.1	7.7	2.6			57.1	99.1	13.5	4.5		5.7	9.9	1.4	0.5	51.4	89.2	12.2	4.1
		Total									17,246.0	29,815.4	1,106.7	961.1		1,724.6	2,981.5	110.7	96.1	15,521.4	26,833.9	996.0	865.0
	Sewerage System	Untreated Sewerage (Pipe Laying)		1,404,772	38.0	66.0	9.0	3.0			53,381.3	92,715.0	12,642.9	4,214.3		53,381.3	92,715.0	12,642.9	4,214.3	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		1,920,000	3.8	9.9	5.4	3.0			7,296.0	19,008.0	10,368.0	5,760.0	1.00	7,296.0	19,008.0	10,368.0	5,760.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		18,226	90.0%	85.0%	40.0%	0.0%			1,313.9	14,809.7	1,238.2	1,174.6		1,313.9	14,809.7	1,238.2	1,174.6	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									61,991.2	126,532.7	24,249.1	11,148.9		61,991.2	126,532.7	24,249.1	11,148.9	0.0	0.0	0.0	0.0
	Industry	Private		38,371	27,660.3	207,855.6	4,344.4	2,472.8			14,522.0	109,124.0	2,281.0	1,298.0	0.80	11,617.6	87,299.2	1,824.8	1,038.4	2,904.4	21,824.8	456.2	259.6
		Public		5,655	3,584.0	14,719.0	237.0	43.0			140.0	1,224.0	50.0	10.0	0.80	112.0	979.2	40.0	8.0	28.0	244.8	10.0	2.0
		Total									14,662.0	110,348.0	2,331.0	1,308.0		11,729.6	88,278.4	1,864.8	1,046.4	2,932.4	22,069.6	466.2	261.6
	Total										93,899.2	266,696.1	27,686.8	13,418.0		75,445.4	217,792.6	26,224.6	12,291.4	18,453.8	48,903.5	1,462.2	1,126.6
Non-Point Load	Land Use System	Forest		51,848	0.0057	0.0115	0.00227	0.00006	364		297.2	594.4	117.3	3.0	0.10	29.7	59.4	11.7	0.3	267.5	535.0	105.6	2.7
		Building and Road		70,874	0.0773	0.1545	0.00327	0.00144	364		5,460.7	10,921.4	230.9	101.4	0.30	1,638.2	3,276.4	69.3	30.4	3,822.5	7,645.0	161.6	71.0
		Irrigated Land		192,174	0.0446	0.0892	0.00828	0.00075	364	1100	34,377.7	68,755.5	6,382.2	579.7	0.10	3,437.8	6,875.5	638.2	58.0	30,940.0	61,879.9	5,744.0	521.7
		Non-irrigated Land		802,704	0.0446	0.0892	0.00828	0.00075	364		35,702.5	71,405.0	6,628.2	602.0	0.10	3,570.3	7,140.5	662.8	60.2	32,132.3	64,264.5	5,965.4	541.8
		Total									75,838.2	151,676.4	13,358.6	1,286.2		8,676.0	17,351.9	1,382.0	148.9	67,162.2	134,324.5	11,976.5	1,137.2
	Live Stock System	Catle		74,593	0.0044	0.0217	0.00242	0.00042	364		119.9	588.3	65.6	11.3		12.0	58.8	6.6	1.1	107.9	529.5	59.1	10.2
		Seep and Goat		2,503,377	0.0011	0.0054	0.00061	0.00010	364		987.2	4,935.8	554.3	94.9	0.10	98.7	493.6	55.4	9.5	888.4	4,442.2	498.9	85.4
		Total									1,107.1	5,524.1	619.9	106.2		110.7	552.4	62.0	10.6	996.4	4,971.7	558.0	95.6
	Total										76,945.3	157,200.5	13,978.5	1,392.4		8,786.7	17,904.3	1,444.0	159.5	68,158.6	139,296.2	12,534.5	1,232.9
Total											170,844.5	423,896.6	41,665.3	14,810.4		84,232.1	235,696.9	27,668.6	12,450.9	86,612.4	188,199.6	13,996.7	2,359.4

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

Point-Load/Total-Load: 0.90 0.92 0.95 0.99
Infiltration/Runoff: 1.0 0.8 0.5 0.2

Table A8.1.2 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 1: 2025)

Dra'a 1468500

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day)				Runoff Rate	Runoff Load in 2025 (kg/day)				Infiltration Load in 2025 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic	Sewerage System	666,903																			
		System	Pit Latrine	801,597	23.9	41.3	1.5	1.3			19,126.5	33,065.9	1,216.4	1,064.4	0.10	1,912.6	3,306.6	121.6	106.4	17,213.8	29,759.3	1,094.7	958.0
		Tourist	Hotel Guest	33	32.3	56.1	7.7	2.6			1.1	1.9	0.3	0.1		0.1	0.2	0.0	0.0	1.0	1.7	0.2	0.1
		Total									19,127.6	33,067.7	1,216.6	1,064.5		1,912.8	3,306.8	121.7	106.5	17,214.8	29,761.0	1,095.0	958.1
	Sewerage System	Untreated Sewerage (Pipe Laying)		663,421	38.0	66.0	9.0	3.0			25,210.0	43,785.8	5,970.8	1,990.3	1.00	25,210.0	43,785.8	5,970.8	1,990.3	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		3,482	3.8	9.9	5.4	3.0			13.2	34.5	18.8	10.4		13.2	34.5	18.8	10.4	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		0	90.0%	85.0%	40.0%	0.0%								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									25,223.2	43,820.2	5,989.6	2,000.7		25,223.2	43,820.2	5,989.6	2,000.7	0.0	0.0	0.0	0.0
	Industry	Private		4,985	6,111.7	34,437.3	429.6	305.0			6,111.7	34,437.3	429.6	305.0	0.80	4,889.4	27,549.8	343.7	244.0	1,222.3	6,887.5	85.9	61.0
		Public		0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									6,111.7	34,437.3	429.6	305.0		4,889.4	27,549.8	343.7	244.0	1,222.3	6,887.5	85.9	61.0
	Total										50,462.5	111,325.3	7,635.8	3,370.2		32,025.3	74,676.8	6,454.9	2,351.2	18,437.1	36,648.4	1,180.9	1,019.1
Non-Point Load	Land Use System	Forest		13,073	0.0057	0.0115	0.00227	0.00006	214		44.1	88.1	17.4	0.4	0.10	4.4	8.8	1.7	0.0	39.7	79.3	15.6	0.4
		Building and Road		83,426	0.0773	0.1545	0.00327	0.00144	214		3,779.0	7,558.0	159.8	70.2	0.30	1,133.7	2,267.4	47.9	21.1	2,645.3	5,290.6	111.8	49.1
		Irrigated Land		48,389	0.0446	0.0892	0.00828	0.00075	214	660	5,167.7	10,335.4	959.4	87.1	0.10	516.8	1,033.5	95.9	8.7	4,650.9	9,301.9	863.4	78.4
		Non-irrigated Land		95,907	0.0446	0.0892	0.00828	0.00075	214		2,507.9	5,015.7	465.6	42.3	0.10	250.8	501.6	46.6	4.2	2,257.1	4,514.2	419.0	38.1
		Total									11,498.7	22,997.3	1,602.1	200.1		1,905.7	3,811.3	192.2	34.0	9,593.0	19,186.0	1,410.0	166.0
	Live Stock System	Catle		51,661	0.0044	0.0217	0.00242	0.00042	214		48.8	239.5	26.7	4.6		4.9	24.0	2.7	0.5	43.9	215.6	24.0	4.1
		Seep and Goat		551,241	0.0011	0.0054	0.00061	0.00010	214		127.8	639.0	71.8	12.3	0.10	12.8	63.9	7.2	1.2	115.0	575.1	64.6	11.1
		Total									176.6	878.5	98.5	16.9		17.7	87.9	9.8	1.7	159.0	790.7	88.6	15.2
	Total										11,675.3	23,875.8	1,700.6	217.0		1,923.3	3,899.2	202.0	35.7	9,751.9	19,976.6	1,498.6	181.2
Total											62,137.7	135,201.1	9,336.4	3,587.2		33,948.7	78,576.0	6,656.9	2,386.9	28,189.1	56,625.1	2,679.5	1,200.3

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

188,548 2.182265

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.94	0.95	0.97	0.99	0.8	0.7	0.4	0.5
2025/2006	1.77	1.92	1.74	1.79	1.5	1.5	1.4	1.6

Rural Damascus 4500700

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day)				Runoff Rate	Runoff Load in 2025 (kg/day)				Infiltration Load in 2025 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic	Sewerage System	3,186,077																			
		System	Pit Latrine	1,314,623	23.9	41.3	1.5	1.3			31,367.5	54,228.2	1,994.9	1,745.6	0.10	3,136.8	5,422.8	199.5	174.6	28,230.8	48,805.4	1,795.4	1,571.1
		Tourist	Hotel Guest	318	32.3	56.1	7.7	2.6			10.3	17.9	2.4	0.8		1.0	1.8	0.2	0.1	9.3	16.1	2.2	0.7
		Total									31,377.8	54,246.1	1,997.3	1,746.5		3,137.8	5,424.6	199.7	174.6	28,240.0	48,821.4	1,797.6	1,571.8
	Sewerage System	Untreated Sewerage (Pipe Laying)		2,530,695	38.0	66.0	9.0	3.0			96,166.4	167,025.9	22,776.3	7,592.1	1.00	96,166.4	167,025.9	22,776.3	7,592.1	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		655,382	3.8	9.9	5.4	3.0			2,490.5	6,488.3	3,539.1	1,966.1		2,490.5	6,488.3	3,539.1	1,966.1	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		7,618	90.0%	85.0%	40.0%	0.0%			593.8	4,853.5	238.1	202.8		593.8	4,853.5	238.1	202.8	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									99,250.6	178,367.7	26,553.4	9,761.0		99,250.6	178,367.7	26,553.4	9,761.0	0.0	0.0	0.0	0.0
	Industry	Private		52,176	40,669.6	221,622.7	2,717.8	1,389.1			34,731.8	189,265.8	2,321.0	1,186.3	0.80	27,785.4	151,412.6	1,856.8	949.1	6,946.4	37,853.2	464.2	237.3
		Public		22,915	11,856.1	65,831.3	1,298.5	296.8			11,257.2	62,791.8	1,187.2	275.6	0.80	9,005.8	50,233.4	949.8	220.5	2,251.4	12,558.4	237.4	55.1
		Total									45,989.0	252,057.5	3,508.2	1,461.9		36,791.2	201,646.0	2,806.6	1,169.5	9,197.8	50,411.5	701.6	292.4
	Total										176,617.4	484,671.3	32,058.9	12,969.4		139,179.6	385,438.3	29,559.7	11,105.2	37,437.8	99,233.0	2,499.2	1,864.2
Non-Point Load	Land Use System	Forest		76,704	0.0057	0.0115	0.00227	0.00006	111		134.1	268.2	52.9	1.3	0.10	13.4	26.8	5.3	0.1	120.7	241.4	47.6	1.2
		Building and Road		81,658	0.0773	0.1545	0.00327	0.00144	111		1,918.6	3,837.2	81.1	35.6	0.30	575.6	1,151.2	24.3	10.7	1,343.0	2,686.0	56.8	24.9
		Irrigated Land		110,452	0.0446	0.0892	0.00828	0.00075	111	990	14,859.4	29,718.9	2,758.7	250.6	0.10	1,485.9	2,971.9	275.9	25.1	13,373.5	26,747.0	2,482.8	225.5
		Non-irrigated Land		61,108	0.0446	0.0892	0.00828	0.00075	111		828.8	1,657.7	153.9	14.0	0.10	82.9	165.8	15.4	1.4	745.9	1,491.9	138.5	12.6
		Total									17,740.9	35,481.9	3,046.6	301.5		2,157.8	4,315.6	320.9	37.3	15,583.1	31,166.3	2,725.7	264.2
	Live Stock System	Catle		248,801	0.0044	0.0217	0.00242	0.00042	111		122.0	598.4	66.7	11.5		12.2	59.8	6.7	1.2	109.8	538.5	60.1	10.4
		Seep and Goat		2,079,905	0.0011	0.0054	0.00061	0.00010	111		250.1	1,250.5	140.4	24.0	0.10	25.0	125.1	14.0	2.4	225.1	1,125.5	126.4	21.6
		Total									372.1	1,848.9	207.2	35.6		37.2	184.9	20.7	3.6	334.9	1,664.0	186.5	32.0
	Total										18,113.0	37,330.8	3,253.7	337.1		2,195.0	4,500.5	341.6	40.8	15,918.0	32,830.3	2,912.1	296.2
Total											194,730.5	522,002.1	35,312.7	13,306.5		141,374.6	389,938.8	29,901.3	11,146.1	53,355.8	132,063.2	5,411.4	2,160.4

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.98	0.99	0.99	1.00	0.4	0.3	0.2	0.2
2025/2006	2.11	2.27	2.02	2.04	1.8	2.0	1.7	1.9

Table A8.1.2 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 1: 2025)

Damascus City 1798300

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	1,798,300																			
			Pit Latrine	0	23.9	41.3	1.5	1.3			0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tourist	Hotel Guest	7,025	32.3	56.1	7.7	2.6			226.9	394.1	53.7	17.9		22.7	39.4	5.4	1.8	204.2	354.7	48.4	16.1
		Total									226.9	394.1	53.7	17.9		22.7	39.4	5.4	1.8	204.2	354.7	48.4	16.1
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		1,798,300	3.8	9.9	5.4	3.0			6,833.5	17,803.2	9,710.8	5,394.9	1.00	6,833.5	17,803.2	9,710.8	5,394.9	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		24,758	90.0%	85.0%	40.0%	0.0%			1,670.7	15,847.1	908.7	474.1		1,670.7	15,847.1	908.7	474.1	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									8,504.2	33,650.2	10,619.5	5,869.0		8,504.2	33,650.2	10,619.5	5,869.0	0.0	0.0	0.0	0.0
	Industry	Private		24,758	16,706.7	105,647.0	1,514.5	474.1			Connect to sewarage system with treatment plant				0.80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Public		17,750	5,366.3	42,773.7	712.9	212.0			1,605.9	20,609.1	432.0	58.3	0.80	1,284.7	16,487.2	345.6	46.6	321.2	4,121.8	86.4	11.7
		Total									1,605.9	20,609.1	432.0	58.3		1,284.7	16,487.2	345.6	46.6	321.2	4,121.8	86.4	11.7
	Total										10,337.0	54,653.4	11,105.2	5,945.2		9,811.6	50,176.9	10,970.4	5,917.4	525.4	4,476.5	134.8	27.8
Non-Point Load	Land Use System	Forest		1,090	0.0057	0.0115	0.00227	0.00006	184		3.2	6.3	1.2	0.0	0.10	0.3	0.6	0.1	0.0	2.8	5.7	1.1	0.0
		Building and Road		10,000	0.0773	0.1545	0.00327	0.00144	184		389.5	779.0	16.5	7.2	0.30	116.8	233.7	4.9	2.2	272.6	545.3	11.5	5.1
		Irrigated Land		696	0.0446	0.0892	0.00828	0.00075	184	990	99.8	199.7	18.5	1.7	0.10	10.0	20.0	1.9	0.2	89.9	179.7	16.7	1.5
		Non-irrigated Land		0	0.0446	0.0892	0.00828	0.00075	184		0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									492.5	985.0	36.2	9.0		127.1	254.3	6.9	2.3	365.3	730.7	29.3	6.6
	Live Stock System	Catle		25,288	0.0044	0.0217	0.00242	0.00042	184		20.6	100.8	11.2	1.9	0.10	2.1	10.1	1.1	0.2	18.5	90.7	10.1	1.7
		Seep and Goat		7,026	0.0011	0.0054	0.00061	0.00010	184		1.4	7.0	0.8	0.1		0.1	0.7	0.1	0.0	1.3	6.3	0.7	0.1
		Total									22.0	107.8	12.0	2.1		2.2	10.8	1.2	0.2	19.8	97.0	10.8	1.9
	Total										514.4	1,092.8	48.3	11.0		129.3	265.1	8.1	2.5	385.1	827.7	40.2	8.5
Total											10,851.5	55,746.2	11,153.5	5,956.2		9,941.0	50,441.9	10,978.6	5,920.0	910.5	5,304.2	174.9	36.3

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.99	0.99	1.00	1.00	0.1	0.1	0.0	0.0
2025/2006	1.39	1.81	1.24	1.22	1.3	1.9	1.5	1.5

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Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	578,830																			
			Pit Latrine	411,270	23.9	41.3	1.5	1.3			9,813.1	16,964.9	624.1	546.1	0.10	981.3	1,696.5	62.4	54.6	8,831.8	15,268.4	561.7	491.5
		Tourist	Hotel Guest	691	32.3	56.1	7.7	2.6			22.3		5.3	1.8		2.2	0.0	0.5	0.2	20.1	0.0	4.8	1.6
		Total									9,835.4	16,964.9	629.4	547.9		983.5	1,696.5	62.9	54.8	8,851.9	15,268.4	566.4	493.1
	Sewerage System	Untreated Sewerage (Pipe Laying)		576,190	38.0	66.0	9.0	3.0			21,895.2	38,028.6	5,185.7	1,728.6		21,895.2	38,028.6	5,185.7	1,728.6	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		2,640	3.8	9.9	5.4	3.0			10.0	26.1	14.3	7.9	1.00	10.0	26.1	14.3	7.9	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		0	90.0%	85.0%	40.0%	0.0%								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									21,905.3	38,054.7	5,200.0	1,736.5		21,905.3	38,054.7	5,200.0	1,736.5	0.0	0.0	0.0	0.0
	Industry	Private		5,064	12,283.3	86,294.6	2,209.8	1,975.8			12,283.3	86,294.6	2,209.8	1,975.8	0.80	9,826.6	69,035.7	1,767.9	1,580.7	2,456.7	17,258.9	442.0	395.2
		Public		315	8.0	286.2	0.0	0.0			8.0	286.2	0.0	0.0	0.80	6.4	229.0	0.0	0.0	1.6	57.2	0.0	0.0
		Total									12,291.2	86,580.8	2,209.8	1,975.8		9,833.0	69,264.6	1,767.9	1,580.7	2,458.2	17,316.2	442.0	395.2
	Total										44,031.9	141,600.4	8,039.2	4,260.2		32,721.8	109,015.8	7,030.8	3,371.9	11,310.1	32,584.6	1,008.4	888.3
Non-Point Load	Land Use System	Forest		32,364	0.0057	0.0115	0.00227	0.00006	802		408.8	817.6	161.3	4.1	0.10	40.9	81.8	16.1	0.4	367.9	735.8	145.2	3.7
		Building and Road		26,019	0.0773	0.1545	0.00327	0.00144	802		4,417.0	8,834.0	186.7	82.1	0.30	1,325.1	2,650.2	56.0	24.6	3,091.9	6,183.8	130.7	57.4
		Irrigated Land		27,288	0.0446	0.0892	0.00828	0.00075	802	500	4,341.4	8,682.8	806.0	73.2	0.10	434.1	868.3	80.6	7.3	3,907.3	7,814.5	725.4	65.9
		Non-irrigated Land		95,954	0.0446	0.0892	0.00828	0.00075	802		9,403.2	18,806.5	1,745.7	158.6	0.10	940.3	1,880.6	174.6	15.9	8,462.9	16,925.8	1,571.1	142.7
		Total									18,570.4	37,140.8	2,899.7	317.9		2,740.4	5,480.9	327.3	48.2	15,830.0	31,660.0	2,572.4	269.7
	Live Stock System	Catle		59,681	0.0044	0.0217	0.00242	0.00042	802		211.4	1,037.1	115.7	19.9	0.10	21.1	103.7	11.6	2.0	190.3	933.3	104.1	17.9
		Seep and Goat		30,675	0.0011	0.0054	0.00061	0.00010	802		26.7	133.3	15.0	2.6		2.7	13.3	1.5	0.3	24.0	119.9	13.5	2.3
		Total									238.1	182.1	182.1	182.1		23.8	117.0	13.1	2.3	214.2	1,053.3	117.6	20.3
	Total										18,808.5	37,322.9	3,081.8	500.0		2,764.2	5,597.9	340.4	50.5	16,044.2	32,713.2	2,690.0	290.0
Total											62,840.4	178,923.3	11,121.0	4,760.2		35,486.0	114,613.7	7,371.2	3,422.4	27,354.4	65,297.8	3,698.4	1,178.2

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

123,763 129,142 1.494696

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.92	0.95	0.95	0.99	0.8	0.6	0.5	0.3
2025/2006	1.57	1.92	1.56	1.79	1.2	1.3	1.1	1.5

Table A8.1.2 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 1: 2025)

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Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day)				Runoff Rate	Runoff Load in 2025 (kg/day)				Infiltration Load in 2025 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	726,402																			
			Pit Latrine	459,098	23.9	41.3	1.5	1.3			10,954.3	18,937.8	696.7	609.6	0.10	1,095.4	1,893.8	69.7	61.0	9,858.9	17,044.0	627.0	548.7
		Tourist	Hotel Guest	1,436	32.3	56.1	7.7	2.6			46.4	80.6	11.0	3.7		4.6	8.1	1.1	0.4	41.7	72.5	9.9	3.3
		Total									11,000.7	19,018.4	707.6	613.3		1,100.1	1,901.8	70.8	61.3	9,900.6	17,116.5	636.9	552.0
	Sewerage System	Untreated Sewerage (Pipe Laying)		726,402	38.0	66.0	9.0	3.0			27,603.3	47,942.5	6,537.6	2,179.2		27,603.3	47,942.5	6,537.6	2,179.2	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		0	3.8	9.9	5.4	3.0			0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		0	90.0%	85.0%	40.0%	0.0%								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									27,603.3	47,942.5	6,537.6	2,179.2		27,603.3	47,942.5	6,537.6	2,179.2	0.0	0.0	0.0	0.0
	Industry	Private		7,352	11,325.3	71,809.7	1,582.3	1,284.2			11,325.3	71,809.7	1,582.3	1,284.2	0.80	9,060.2	57,447.8	1,265.9	1,027.4	2,265.1	14,361.9	316.5	256.8
		Public		3,956	1,998.1	12,576.9	254.4	37.1			1,807.3	10,629.2	212.0	31.8	0.80	1,445.8	8,503.3	169.6	25.4	361.5	2,125.8	42.4	6.4
		Total									13,132.6	82,438.9	1,794.3	1,316.0		10,506.1	65,951.1	1,435.5	1,052.8	2,626.5	16,487.8	358.9	263.2
	Total										51,736.5	149,399.7	9,039.6	4,108.5		39,209.4	115,795.4	8,043.8	3,293.3	12,527.1	33,604.3	995.7	815.2
Non-Point Load	Land Use System	Forest		88,420	0.0057	0.0115	0.00227	0.00006	710		988.7	1,977.4	390.1	9.8	0.10	98.9	197.7	39.0	1.0	889.8	1,779.6	351.1	8.9
		Building and Road		26,085	0.0773	0.1545	0.00327	0.00144	710		3,920.2	7,840.5	165.7	72.8	0.30	1,176.1	2,352.1	49.7	21.8	2,744.2	5,488.3	116.0	51.0
		Irrigated Land		37,746	0.0446	0.0892	0.00828	0.00075	710	500	5,580.8	11,161.6	1,036.1	94.1	0.10	558.1	1,116.2	103.6	9.4	5,022.7	10,045.5	932.5	84.7
		Non-irrigated Land		60,266	0.0446	0.0892	0.00828	0.00075	710		5,228.4	10,456.8	970.7	88.2	0.10	522.8	1,045.7	97.1	8.8	4,705.6	9,411.1	873.6	79.3
		Total							710		15,718.2	31,436.3	2,562.6	264.9		2,355.9	4,711.7	289.4	41.1	13,362.3	26,724.6	2,273.2	223.9
	Live Stock System	Catle		62,705	0.0044	0.0217	0.00242	0.00042	710		196.6	964.6	107.6	18.6		19.7	96.5	10.8	1.9	177.0	868.2	96.8	16.7
		Seep and Goat		23,228	0.0011	0.0054	0.00061	0.00010	710		17.9	89.3	10.0	1.7	0.10	1.8	8.9	1.0	0.2	16.1	80.4	9.0	1.5
		Total									214.5	1,053.9	117.6	20.3		21.4	105.4	11.8	2.0	193.0	948.6	105.9	18.2
	Total										15,932.7	32,490.3	2,680.2	285.2		2,377.3	4,817.1	301.2	43.1	13,555.3	27,673.1	2,379.1	242.1
Total											67,669.2	181,890.0	11,719.8	4,393.7		41,586.7	120,612.6	8,345.0	3,336.4	26,082.5	61,277.4	3,374.8	1,057.3

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

148,188 159,496 1.846023

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.94	0.96	0.96	0.99	0.6	0.5	0.4	0.3
2025/2006	1.52	1.82	1.46	1.59	1.3	1.4	1.2	1.5

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Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day)				Runoff Rate	Runoff Load in 2025 (kg/day)				Infiltration Load in 2025 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	469,788																			
			Pit Latrine	1,022,712	23.9	41.3	1.5	1.3			24,402.4	42,186.9	1,551.9	1,358.0	0.10	2,440.2	4,218.7	155.2	135.8	21,962.1	37,968.2	1,396.7	1,222.2
		Tourist	Hotel Guest	105	32.3	56.1	7.7	2.6			3.4	5.9	0.8	0.3		0.3	0.6	0.1	0.0	3.0	5.3	0.7	0.2
		Total									24,405.8	42,192.8	1,552.7	1,358.3		2,440.6	4,219.3	155.3	135.8	21,965.2	37,973.5	1,397.4	1,222.5
	Sewerage System	Untreated Sewerage (Pipe Laying)		460,105	38.0	66.0	9.0	3.0			17,484.0	30,366.9	4,140.9	1,380.3		17,484.0	30,366.9	4,140.9	1,380.3	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		9,683	3.8	9.9	5.4	3.0			36.8	95.9	52.3	29.0	1.00	36.8	95.9	52.3	29.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		0	90.0%	85.0%	40.0%	0.0%								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									17,520.8	30,462.8	4,193.2	1,409.4		17,520.8	30,462.8	4,193.2	1,409.4	0.0	0.0	0.0	0.0
	Industry	Private		2,484	2,033.1	11,957.9	147.9	40.0			2,033.1	11,957.9	147.9	40.0	0.80	1,626.5	9,566.3	118.3	32.0	406.6	2,391.6	29.6	8.0
		Public		30,740	43,036.0	61,480.0	768.5	169.6			11,037.3	18,815.0	275.6	61.0	0.80	8,829.8	15,052.0	220.5	48.8	2,207.5	3,763.0	55.1	12.2
		Total									13,070.3	30,772.9	423.5	101.0		10,456.3	24,618.3	338.8	80.8	2,614.1	6,154.6	84.7	20.2
	Total										54,996.9	103,428.4	6,169.4	2,868.6		30,417.6	59,300.4	4,687.3	1,626.0	24,579.3	44,128.1	1,482.1	1,242.7
Non-Point Load	Land Use System	Forest		22,085	0.0057	0.0115	0.00227	0.00006	169		58.8	117.6	23.2	0.6	0.10	5.9	11.8	2.3	0.1	52.9	105.8	20.9	0.5
		Building and Road		72,562	0.0773	0.1545	0.00327	0.00144	169		2,595.7	5,191.5	109.7	48.2	0.30	778.7	1,557.4	32.9	14.5	1,817.0	3,634.0	76.8	33.8
		Irrigated Land		290,167	0.0446	0.0892	0.00828	0.00075	169	1100	44,993.8	89,987.5	8,353.1	758.7	0.10	4,499.4	8,998.8	835.3	75.9	40,494.4	80,988.8	7,517.8	682.9
		Non-irrigated Land		225,960	0.0446	0.0892	0.00828	0.00075	169		4,666.2	9,332.3	866.3	78.7	0.10	466.6	933.2	86.6	7.9	4,199.6	8,399.1	779.6	70.8
		Total									52,314.4	104,628.9	9,352.3	886.2		5,750.6	11,501.2	957.2	98.3	46,563.8	93,127.7	8,395.1	787.9
	Live Stock System	Catle		21,535	0.0044	0.0217	0.00242	0.00042	169		16.1	78.9	8.8	1.5		1.6	7.9	0.9	0.2	14.5	71.0	7.9	1.4
		Seep and Goat		2,987,413	0.0011	0.0054	0.00061	0.00010	169		546.9	2,734.7	307.1	52.6	0.10	54.7	273.5	30.7	5.3	492.3	2,461.3	276.4	47.3
		Total									563.0	2,813.6	315.9	54.1		56.3	281.4	31.6	5.4	506.7	2,532.2	284.3	48.7
	Total										52,877.5	107,442.5	9,668.2	940.3		5,806.9	11,782.5	988.8	103.7	47,070.6	95,659.9	8,679.5	836.6
Total											107,874.4	210,870.9	15,837.7	3,808.9		36,224.5	71,082.9	5,676.1	1,729.6	71,649.8	139,788.0	10,161.6	2,079.3

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.84	0.83	0.83	0.94	2.0	2.0	1.8	1.2
2025/2006	1.89	1.92	1.77	1.85	1.4	1.4	1.4	1.6

Table A8.1.2 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 1: 2025)

Dier-Ez-zor 1793700

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	786,135																			
			Pit Latrine	1,007,565	23.9	41.3	1.5	1.3			24,041.0	41,562.1	1,528.9	1,337.9	0.10	2,404.1	4,156.2	152.9	133.8	21,636.9	37,405.9	1,376.0	1,204.1
		Tourist	Hotel Guest	202	32.3	56.1	7.7	2.6			6.5	11.3	1.5	0.5		0.7	1.1	0.2	0.1	5.9	10.2	1.4	0.5
		Total									24,047.5	41,573.4	1,530.5	1,338.4		2,404.7	4,157.3	153.0	133.8	21,642.7	37,416.0	1,377.4	1,204.6
	Sewerage System	Untreated Sewerage (Pipe Laying)		786,135	38.0	66.0	9.0	3.0			29,873.1	51,884.9	7,075.2	2,358.4	1.00	29,873.1	51,884.9	7,075.2	2,358.4	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		0	3.8	9.9	5.4	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		0	90.0%	85.0%	40.0%	0.0%								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									29,873.1	51,884.9	7,075.2	2,358.4		29,873.1	51,884.9	7,075.2	2,358.4	0.0	0.0	0.0	0.0
	Industry	Private		2,572	3,279.6	13,583.9	140.5	59.4			3,279.6	13,583.9	140.5	59.4	0.80	2,623.7	10,867.1	112.4	47.5	655.9	2,716.8	28.1	11.9
		Public		39,512	37,820.8	69,130.6	235.9	1,036.2			28,500.8	56,455.6	209.4	834.8	0.80	22,800.6	45,164.5	167.5	667.8	5,700.2	11,291.1	41.9	167.0
		Total									31,780.4	70,039.5	349.8	894.1		25,424.3	56,031.6	279.8	715.3	6,356.1	14,007.9	70.0	178.8
	Total										85,701.0	163,497.8	8,955.5	4,590.9		57,702.2	112,073.8	7,508.1	3,207.5	27,998.8	51,423.9	1,447.4	1,383.4
Non-Point Load	Land Use System	Forest		10,955	0.0057	0.0115	0.00227	0.00006	149		25.7	51.4	10.1	0.3	0.10	2.6	5.1	1.0	0.0	23.1	46.3	9.1	0.2
		Building and Road		29,735	0.0773	0.1545	0.00327	0.00144	149		937.8	1,875.6	39.6	17.4	0.30	281.3	562.7	11.9	5.2	656.5	1,312.9	27.8	12.2
		Irrigated Land		214,161	0.0446	0.0892	0.00828	0.00075	149	1100	32,684.7	65,369.3	6,067.9	551.2	0.10	3,268.5	6,536.9	606.8	55.1	29,416.2	58,832.4	5,461.1	496.0
		Non-irrigated Land		23,486	0.0446	0.0892	0.00828	0.00075	149		427.6	855.2	79.4	7.2	0.10	42.8	85.5	7.9	0.7	384.8	769.7	71.4	6.5
		Total									34,075.8	68,151.5	6,197.1	576.0		3,595.1	7,190.3	627.6	61.1	30,480.6	60,961.2	5,569.5	515.0
	Live Stock System	Catle		281,812	0.0044	0.0217	0.00242	0.00042	149		185.5	909.8	101.5	17.5		18.5	91.0	10.1	1.7	166.9	818.8	91.3	15.7
		Seep and Goat		3,546,945	0.0011	0.0054	0.00061	0.00010	149		572.5	2,862.7	321.5	55.1	0.10	57.3	286.3	32.2	5.5	515.3	2,576.4	289.4	49.5
		Total									758.0	3,772.5	423.0	72.5		75.8	377.2	42.3	7.3	682.2	3,395.2	380.7	65.3
	Total										34,833.8	71,924.0	6,620.1	648.6		3,670.9	7,567.5	669.9	68.3	31,162.8	64,356.5	5,950.1	580.2
Total											120,534.8	235,421.8	15,575.5	5,239.5		61,373.1	119,641.4	8,178.0	3,275.9	59,161.6	115,780.4	7,397.5	1,963.7

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.94	0.94	0.92	0.98	1.0	1.0	0.9	0.6
2025/2006	2.03	2.06	1.77	1.91	1.6	1.6	1.5	1.7

Hassakeh 1773100

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	657,640																			
			Pit Latrine	1,115,460	23.9	41.3	1.5	1.3			26,615.4	46,012.7	1,692.6	1,481.2	0.10	2,661.5	4,601.3	169.3	148.1	23,953.9	41,411.5	1,523.4	1,333.1
		Tourist	Hotel Guest	285	32.3	56.1	7.7	2.6			9.2	16.0	2.2	0.7		0.9	1.6	0.2	0.1	8.3	14.4	2.0	0.7
		Total									26,624.6	46,028.7	1,694.8	1,481.9		2,662.5	4,602.9	169.5	148.2	23,962.2	41,425.9	1,525.3	1,333.7
	Sewerage System	Untreated Sewerage (Pipe Laying)		620,913	38.0	66.0	9.0	3.0			23,594.7	40,980.2	5,588.2	1,862.7	1.00	23,594.7	40,980.2	5,588.2	1,862.7	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		36,727	3.8	9.9	5.4	3.0			139.6	363.6	198.3	110.2		139.6	363.6	198.3	110.2	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		0	90.0%	85.0%	40.0%	0.0%								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									23,734.2	41,343.8	5,786.5	1,972.9		23,734.2	41,343.8	5,786.5	1,972.9	0.0	0.0	0.0	0.0
	Industry	Private		5,014	4,334.6	22,618.3	298.9	75.8			4,334.6	22,618.3	298.9	75.8	0.80	3,467.7	18,094.6	239.1	60.6	866.9	4,523.7	59.8	15.2
		Public		204	5.3	196.1	0.0	0.0			5.3	196.1	0.0	0.0	0.80	4.2	156.9	0.0	0.0	1.1	39.2	0.0	0.0
		Total									4,339.9	22,814.4	298.9	75.8		3,471.9	18,251.5	239.1	60.6	868.0	4,562.9	59.8	15.2
	Total										54,698.8	110,187.0	7,780.3	3,530.6		29,868.6	64,198.2	6,195.2	2,181.7	24,830.1	45,988.7	1,585.1	1,348.9
Non-Point Load	Land Use System	Forest		163,529	0.0057	0.0115	0.00227	0.00006	227		584.6	1,169.2	230.7	5.8	0.10	58.5	116.9	23.1	0.6	526.2	1,052.3	207.6	5.2
		Building and Road		72,031	0.0773	0.1545	0.00327	0.00144	227		3,461.0	6,922.1	146.3	64.3	0.30	1,038.3	2,076.6	43.9	19.3	2,422.7	4,845.4	102.4	45.0
		Irrigated Land		703,013	0.0446	0.0892	0.00828	0.00075	227	1000	105,402.2	210,804.5	19,567.9	1,777.4	0.10	10,540.2	21,080.4	1,956.8	177.7	94,862.0	189,724.0	17,611.2	1,599.6
		Non-irrigated Land		514,192	0.0446	0.0892	0.00828	0.00075	227		14,262.4	28,524.8	2,647.8	240.5	0.10	1,426.2	2,852.5	264.8	24.1	12,836.2	25,672.3	2,383.0	216.5
		Total									123,710.3	247,420.6	22,592.8	2,088.0		13,063.2	26,126.5	2,288.5	221.7	110,647.1	221,294.1	20,304.2	1,866.3
	Live Stock System	Catle		115,826	0.0044	0.0217	0.00242	0.00042	227		116.1	569.7	63.5	11.0		11.6	57.0	6.4	1.1	104.5	512.7	57.2	9.9
		Seep and Goat		2,773,535	0.0011	0.0054	0.00061	0.00010	227		682.1	3,410.3	383.0	65.6	0.10	68.2	341.0	38.3	6.6	613.9	3,069.3	344.7	59.0
		Total									798.2	3,980.0	446.5	76.5		79.8	398.0	44.7	7.7	718.4	3,582.0	401.9	68.9
	Total										124,508.5	251,400.6	23,039.3	2,164.5		13,143.1	26,524.5	2,333.2	229.3	111,365.4	224,876.1	20,706.1	1,935.2
Total											179,207.2	361,587.5	30,819.6	5,695.2		43,011.7	90,722.7	8,528.4	2,411.1	136,195.6	270,864.8	22,291.3	3,284.1

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.69	0.71	0.73	0.90	3.2	3.0	2.6	1.4
2025/2006	1.39	1.48	1.37	1.39	1.3	1.3	1.3	1.3

Table A8.1.2 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 1: 2025)

Quneitra 109000

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	57,262																			
			Pit Latrine	51,738	23.9	41.3	1.5	1.3			1,234.5	2,134.2	78.5	68.7	0.10	123.4	213.4	7.9	6.9	1,111.0	1,920.8	70.7	61.8
		Tourist	Hotel Guest	0	32.3	56.1	7.7	2.6			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									1,234.5	2,134.2	78.5	68.7		123.4	213.4	7.9	6.9	1,111.0	1,920.8	70.7	61.8
	Sewerage System	Untreated Sewerage (Pipe Laying)		57,262	38.0	66.0	9.0	3.0			2,176.0	3,779.3	515.4	171.8	1.00	2,176.0	3,779.3	515.4	171.8	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		0	3.8	9.9	5.4	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		0	90.0%	85.0%	40.0%	0.0%								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									2,176.0	3,779.3	515.4	171.8		2,176.0	3,779.3	515.4	171.8	0.0	0.0	0.0	0.0
	Industry	Private		142	269.8	1,156.7	5.6	3.7			269.8	1,156.7	5.6	3.7	0.80	215.8	925.4	4.5	3.0	54.0	231.3	1.1	0.7
		Public		0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									269.8	1,156.7	5.6	3.7		215.8	925.4	4.5	3.0	54.0	231.3	1.1	0.7
	Total										3,680.2	7,070.2	599.4	244.2		2,515.2	4,918.1	527.7	181.6	1,165.0	2,152.1	71.8	62.6
Non-Point Load	Land Use System	Forest		4,435	0.0057	0.0115	0.00227	0.00006	214		14.9	29.9	5.9	0.1	0.10	1.5	3.0	0.6	0.0	13.5	26.9	5.3	0.1
		Building and Road		7,534	0.0773	0.1545	0.00327	0.00144	214		341.3	682.6	14.4	6.3	0.30	102.4	204.8	4.3	1.9	238.9	477.8	10.1	4.4
		Irrigated Land		6,645	0.0446	0.0892	0.00828	0.00075	214	660	709.7	1,419.4	131.8	12.0	0.10	71.0	141.9	13.2	1.2	638.7	1,277.5	118.6	10.8
		Non-irrigated Land		16,495	0.0446	0.0892	0.00828	0.00075	214		431.3	862.6	80.1	7.3	0.10	43.1	86.3	8.0	0.7	388.2	776.4	72.1	6.5
		Total									1,497.3	2,994.5	232.2	25.7		218.0	436.0	26.1	3.8	1,279.3	2,558.6	206.1	21.9
	Live Stock System	Catle		26,951	0.0044	0.0217	0.00242	0.00042	214		25.5	125.0	13.9	2.4		2.5	12.5	1.4	0.2	22.9	112.5	12.5	2.2
		Seep and Goat		185,126	0.0011	0.0054	0.00061	0.00010	214		42.9	214.6	24.1	4.1	0.10	4.3	21.5	2.4	0.4	38.6	193.1	21.7	3.7
		Total									68.4	339.6	38.0	6.5		6.8	34.0	3.8	0.7	61.6	305.6	34.2	5.9
	Total										1,565.7	3,334.1	270.2	32.3		224.8	469.9	29.9	4.5	1,340.8	2,864.2	240.3	27.8
Total											5,245.9	10,404.3	869.6	276.5		2,740.1	5,388.0	557.6	186.1	2,505.8	5,016.3	312.1	90.3

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.92	0.91	0.95	0.98	0.9	0.9	0.6	0.5
2025/2006	1.62	1.68	1.60	1.63	1.3	1.3	1.2	1.5

Aleppo 7,085,600

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	5,823,742																			
			Pit Latrine	1,261,858	23.9	41.3	1.5	1.3			30,108.5	52,051.6	1,914.8	1,675.6	0.10	3,010.9	5,205.2	191.5	167.6	27,097.7	46,846.5	1,723.3	1,508.0
		Tourist	Hotel Guest	2,694	32.3	56.1	7.7	2.6			87.0	151.1	20.6	6.9		8.7	15.1	2.1	0.7	78.3	136.0	18.5	6.2
		Total									30,195.5	52,202.8	1,935.4	1,682.5		3,019.6	5,220.3	193.5	168.2	27,176.0	46,982.5	1,741.9	1,514.2
	Sewerage System	Untreated Sewerage (Pipe Laying)		2,460,629	38.0	66.0	9.0	3.0			93,503.9	162,401.5	22,145.7	7,381.9	1.00	93,503.9	162,401.5	22,145.7	7,381.9	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		3,363,113	3.8	9.9	5.4	3.0			12,779.8	33,294.8	18,160.8	10,089.3		12,779.8	33,294.8	18,160.8	10,089.3	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		48,300	90.0%	85.0%	40.0%	0.0%			3,481.7	39,245.7	3,281.1	3,112.6		3,481.7	39,245.7	3,281.1	3,112.6	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									109,765.5	234,942.1	43,587.6	20,583.9		109,765.5	234,942.1	43,587.6	20,583.9	0.0	0.0	0.0	0.0
	Industry	Private		101,684	73,299.8	550,817.3	11,512.7	6,552.9			38,482.4	289,179.1	6,044.1	3,440.3	0.80	30,785.9	231,343.3	4,835.3	2,752.2	7,696.5	57,835.8	1,208.8	688.1
		Public		14,986	9,497.6	39,005.4	628.1	114.0			371.0	3,243.6	132.5	26.5	0.80	296.8	2,594.9	106.0	21.2	74.2	648.7	26.5	5.3
		Total									38,853.4	292,422.7	6,176.6	3,466.8		31,082.7	233,938.2	4,941.3	2,773.4	7,770.7	58,484.5	1,235.3	693.4
	Total										178,814.4	579,567.5	51,699.6	25,733.1		143,867.7	474,100.5	48,722.4	23,525.5	34,946.7	105,467.0	2,977.2	2,207.6
Non-Point Load	Land Use System	Forest		69,468	0.0057	0.0115	0.00227	0.00006	364		398.2	796.5	157.1	4.0	0.10	39.8	79.6	15.7	0.4	358.4	716.8	141.4	3.6
		Building and Road		78,452	0.0773	0.1545	0.00327	0.00144	364		6,044.6	12,089.2	255.6	112.3	0.30	1,813.4	3,626.8	76.7	33.7	4,231.2	8,462.5	178.9	78.6
		Irrigated Land		279,178	0.0446	0.0892	0.00828	0.00075	364	1100	49,941.9	99,883.7	9,271.7	842.2	0.10	4,994.2	9,988.4	927.2	84.2	44,947.7	89,895.4	8,344.5	757.9
		Non-irrigated Land		647,992	0.0446	0.0892	0.00828	0.00075	364		28,821.3	57,642.5	5,350.7	486.0	0.10	2,882.1	5,764.3	535.1	48.6	25,939.1	51,878.3	4,815.6	437.4
		Total									85,206.0	170,412.0	15,035.1	1,444.4		9,729.5	19,459.0	1,554.6	166.9	75,476.5	150,952.9	13,480.5	1,277.5
	Live Stock System	Catle		99,173	0.0044	0.0217	0.00242	0.00042	364		159.4	782.1	87.2	15.0		15.9	78.2	8.7	1.5	143.5	703.9	78.5	13.5
		Seep and Goat		3,388,341	0.0011	0.0054	0.00061	0.00010	364		1,336.1	6,680.7	750.3	128.5	0.10	133.6	668.1	75.0	12.8	1,202.5	6,012.6	675.3	115.6
		Total									1,495.6	7,462.8	837.5	143.5		149.6	746.3	83.8	14.4	1,346.0	6,716.5	753.8	129.2
	Total										86,701.6	177,874.8	15,872.6	1,587.9		9,879.1	20,205.3	1,638.4	181.3	76,822.5	157,669.5	14,234.2	1,406.7
Total											265,515.9	757,442.3	67,572.3	27,321.0		153,746.8	494,305.8	50,360.8	23,706.8	111,769.1	263,136.5	17,211.4	3,614.3

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.94	0.96	0.97	0.99	0.7	0.5	0.3	0.2
2025/2006	1.83	2.10	1.82	1.90	1.3	1.4	1.2	1.5

Table A8.1.3 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 2: 2025)

Dra'a

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	720,944																			
			Pit Latrine	745,556	23.9	41.3	1.5	1.3			17,789.3	30,754.2	1,131.3	990.0	0.10	1,778.9	3,075.4	113.1	99.0	16,010.4	27,678.8	1,018.2	891.0
		Tourist	Hotel Guest	33	32.3	56.1	7.7	2.6			1.1	1.9	0.3	0.1		0.1	0.2	0.0	0.0	1.0	1.7	0.2	0.1
		Total									17,790.4	30,756.0	1,131.6	990.1		1,779.0	3,075.6	113.2	99.0	16,011.3	27,680.4	1,018.4	891.1
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		720,944	3.8	9.9	5.4	3.0			2,739.6	7,137.3	3,893.1	2,162.8	1.00	2,739.6	7,137.3	3,893.1	2,162.8	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		2,451	90.0%	85.0%	40.0%	0.0%			300.5	2,539.4	126.7	149.9		300.5	2,539.4	126.7	149.9	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									3,040.0	9,676.8	4,019.8	2,312.8		3,040.0	9,676.8	4,019.8	2,312.8	0.0	0.0	0.0	0.0
	Industry	Private		4,985	6,111.7	34,437.3	429.6	305.0			3,107.1	17,507.6	218.4	155.1	0.80	2,485.7	14,006.1	174.7	124.1	621.4	3,501.5	43.7	31.0
		Public		0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									3,107.1	17,507.6	218.4	155.1		2,485.7	14,006.1	174.7	124.1	621.4	3,501.5	43.7	31.0
Total											23,937.6	57,940.4	5,369.8	3,457.9		7,304.8	26,758.5	4,307.7	2,535.8	16,632.8	31,182.0	1,062.1	922.1
Non-Point Load	Land Use System	Forest		13,073	0.0057	0.0115	0.00227	0.00006	214		44.1	88.1	17.4	0.4	0.10	4.4	8.8	1.7	0.0	39.7	79.3	15.6	0.4
		Building and Road		83,426	0.0773	0.1545	0.00327	0.00144	214		3,779.0	7,558.0	159.8	70.2	0.30	1,133.7	2,267.4	47.9	21.1	2,645.3	5,290.6	111.8	49.1
		Irrigated Land		48,389	0.0446	0.0892	0.00828	0.00075	214	660	5,167.7	10,335.4	959.4	87.1	0.10	516.8	1,033.5	95.9	8.7	4,650.9	9,301.9	863.4	78.4
		Non-irrigated Land		95,907	0.0446	0.0892	0.00828	0.00075	214		2,507.9	5,015.7	465.6	42.3	0.10	250.8	501.6	46.6	4.2	2,257.1	4,514.2	419.0	38.1
		Total									11,498.7	22,997.3	1,602.1	200.1		1,905.7	3,811.3	192.2	34.0	9,593.0	19,186.0	1,410.0	166.0
	Live Stock System	Catle		51,661	0.0044	0.0217	0.00242	0.00042	214		48.8	239.5	26.7	4.6		4.9	24.0	2.7	0.5	43.9	215.6	24.0	4.1
		Seep and Goat		551,241	0.0011	0.0054	0.00061	0.00010	214		127.8	639.0	71.8	12.3	0.10	12.8	63.9	7.2	1.2	115.0	575.1	64.6	11.1
		Total									176.6	878.5	98.5	16.9		17.7	87.9	9.8	1.7	159.0	790.7	88.6	15.2
	Total										11,675.3	23,875.8	1,700.6	217.0		1,923.3	3,899.2	202.0	35.7	9,751.9	19,976.6	1,498.6	181.2
Total											35,612.8	81,816.3	7,070.4	3,674.9		9,228.1	30,657.7	4,509.7	2,571.6	26,384.7	51,158.6	2,560.7	1,103.3

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)
188,298 2.179371

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.79	0.87	0.96	0.99	2.9	1.7	0.6	0.4
2025/2006	0.48	0.75	1.18	1.93	1.4	1.4	1.3	1.5

Rural Damascus

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	3,815,520																			
			Pit Latrine	685,180	23.9	41.3	1.5	1.3			16,348.7	28,263.7	1,039.7	909.8	0.10	1,634.9	2,826.4	104.0	91.0	14,713.8	25,437.3	935.7	818.8
		Tourist	Hotel Guest	318	32.3	56.1	7.7	2.6			10.3	17.9	2.4	0.8		1.0	1.8	0.2	0.1	9.3	16.1	2.2	0.7
		Total									16,359.0	28,281.5	1,042.2	910.6		1,635.9	2,828.2	104.2	91.1	14,723.1	25,453.4	937.9	819.6
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		3,815,520	3.8	9.9	5.4	3.0			14,499.0	37,773.6	20,603.8	11,446.6	1.00	14,499.0	37,773.6	20,603.8	11,446.6	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		44,233	90.0%	85.0%	40.0%	0.0%			3,447.8	28,182.5	1,382.4	1,177.7		3,447.8	28,182.5	1,382.4	1,177.7	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									17,946.8	65,956.1	21,986.3	12,624.2		17,946.8	65,956.1	21,986.3	12,624.2	0.0	0.0	0.0	0.0
	Industry	Private		52,176	40,669.6	221,622.7	2,717.8	1,389.1			6,191.5	33,739.5	413.8	211.5	0.80	4,953.2	26,991.6	331.0	169.2	1,238.3	6,747.9	82.8	42.3
		Public		22,915	11,856.1	65,831.3	1,298.5	296.8			11,257.2	62,791.8	1,187.2	275.6	0.80	9,005.8	50,233.4	949.8	220.5	2,251.4	12,558.4	237.4	55.1
		Total									17,448.7	96,531.3	1,601.0	487.1		13,958.9	77,225.0	1,280.8	389.7	3,489.7	19,306.3	320.2	97.4
Total											51,754.5	190,768.9	24,629.4	14,021.9		33,541.6	146,009.3	23,371.2	13,104.9	18,212.8	44,759.6	1,258.1	917.0
Non-Point Load	Land Use System	Forest		76,704	0.0057	0.0115	0.00227	0.00006	111		134.1	268.2	52.9	1.3	0.10	13.4	26.8	5.3	0.1	120.7	241.4	47.6	1.2
		Building and Road		81,658	0.0773	0.1545	0.00327	0.00144	111		1,918.6	3,837.2	81.1	35.6	0.30	575.6	1,151.2	24.3	10.7	1,343.0	2,686.0	56.8	24.9
		Irrigated Land		110,452	0.0446	0.0892	0.00828	0.00075	111	990	14,859.4	29,718.9	2,758.7	250.6	0.10	1,485.9	2,971.9	275.9	25.1	13,373.5	26,747.0	2,482.8	225.5
		Non-irrigated Land		61,108	0.0446	0.0892	0.00828	0.00075	111		828.8	1,657.7	153.9	14.0	0.10	82.9	165.8	15.4	1.4	745.9	1,491.9	138.5	12.6
		Total									17,740.9	35,481.9	3,046.6	301.5		2,157.8	4,315.6	320.9	37.3	15,583.1	31,166.3	2,725.7	264.2
	Live Stock System	Catle		248,801	0.0044	0.0217	0.00242	0.00042	111		122.0	598.4	66.7	11.5		12.2	59.8	6.7	1.2	109.8	538.5	60.1	10.4
		Seep and Goat		2,079,905	0.0011	0.0054	0.00061	0.00010	111		250.1	1,250.5	140.4	24.0	0.10	25.0	125.1	14.0	2.4	225.1	1,125.5	126.4	21.6
		Total									372.1	1,848.9	207.2	35.6		37.2	184.9	20.7	3.6	334.9	1,664.0	186.5	32.0
	Total										18,113.0	37,330.8	3,253.7	337.1		2,195.0	4,500.5	341.6	40.8	15,918.0	32,830.3	2,912.1	296.2
Total											69,867.5	228,099.7	27,883.1	14,359.0		35,736.6	150,509.8	23,712.8	13,145.8	34,130.8	77,589.9	4,170.3	1,213.2

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.94	0.97	0.99	1.00	1.0	0.5	0.2	0.1
2025/2006	0.53	0.88	1.60	2.41	1.2	1.2	1.3	1.1

Table A8.1.3 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 2: 2025)

Damascus City

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day)				Runoff Rate	Runoff Load in 2025 (kg/day)				Infiltration Load in 2025 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	1,798,300																			
			Pit Latrine	0	23.9	41.3	1.5	1.3			0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tourist	Hotel Guest	7,025	32.3	56.1	7.7	2.6			226.9	394.1	53.7	17.9		22.7	39.4	5.4	1.8	204.2	354.7	48.4	16.1
		Total									226.9	394.1	53.7	17.9		22.7	39.4	5.4	1.8	204.2	354.7	48.4	16.1
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		1,798,300	3.8	9.9	5.4	3.0			6,833.5	17,803.2	9,710.8	5,394.9		6,833.5	17,803.2	9,710.8	5,394.9	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		24,758	90.0%	85.0%	40.0%	0.0%			1,670.7	15,847.1	908.7	474.1		1,670.7	15,847.1	908.7	474.1	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									8,504.2	33,650.2	10,619.5	5,869.0		8,504.2	33,650.2	10,619.5	5,869.0	0.0	0.0	0.0	0.0
	Industry	Private		24,758	16,706.7	105,647.0	1,514.5	474.1			Connect to sewarage system with treatment plant				0.80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Public		17,750	5,366.3	42,773.7	712.9	212.0			1,605.9	20,609.1	432.0	58.3	0.80	1,284.7	16,487.2	345.6	46.6	321.2	4,121.8	86.4	11.7
		Total									1,605.9	20,609.1	432.0	58.3		1,284.7	16,487.2	345.6	46.6	321.2	4,121.8	86.4	11.7
	Total										10,337.0	54,653.4	11,105.2	5,945.2		9,811.6	50,176.9	10,970.4	5,917.4	525.4	4,476.5	134.8	27.8
Non-Point Load	Land Use System	Forest		1,090	0.0057	0.0115	0.00227	0.00006	184		3.2	6.3	1.2	0.0	0.10	0.3	0.6	0.1	0.0	2.8	5.7	1.1	0.0
		Building and Road		10,000	0.0773	0.1545	0.00327	0.00144	184		389.5	779.0	16.5	7.2	0.30	116.8	233.7	4.9	2.2	272.6	545.3	11.5	5.1
		Irrigated Land		696	0.0446	0.0892	0.00828	0.00075	184	990	99.8	199.7	18.5	1.7	0.10	10.0	20.0	1.9	0.2	89.9	179.7	16.7	1.5
		Non-irrigated Land		0	0.0446	0.0892	0.00828	0.00075	184		0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									492.5	985.0	36.2	9.0		127.1	254.3	6.9	2.3	365.3	730.7	29.3	6.6
	Live Stock System	Catle		25,288	0.0044	0.0217	0.00242	0.00042	184		20.6	100.8	11.2	1.9	0.10	2.1	10.1	1.1	0.2	18.5	90.7	10.1	1.7
		Seep and Goat		7,026	0.0011	0.0054	0.00061	0.00010	184		1.4	7.0	0.8	0.1		0.1	0.7	0.1	0.0	1.3	6.3	0.7	0.1
		Total									22.0	107.8	12.0	2.1		2.2	10.8	1.2	0.2	19.8	97.0	10.8	1.9
	Total										514.4	1,092.8	48.3	11.0		129.3	265.1	8.1	2.5	385.1	827.7	40.2	8.5
Total											10,851.5	55,746.2	11,153.5	5,956.2		9,941.0	50,441.9	10,978.6	5,920.0	910.5	5,304.2	174.9	36.3

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.99	0.99	1.00	1.00	0.1	0.1	0.0	0.0
2025/2006	1.39	1.81	1.24	1.22	1.3	1.9	1.5	1.5

Tartous

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day)				Runoff Rate	Runoff Load in 2025 (kg/day)				Infiltration Load in 2025 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	597,730																			
			Pit Latrine	392,370	23.9	41.3	1.5	1.3			9,362.1	16,185.3	595.4	521.0	0.10	936.2	1,618.5	59.5	52.1	8,425.9	14,566.7	535.9	468.9
		Tourist	Hotel Guest	691	32.3	56.1	7.7	2.6			22.3		5.3	1.8		2.2	0.0	0.5	0.2	20.1	0.0	4.8	1.6
		Total									9,384.5	16,185.3	600.7	522.8		938.4	1,618.5	60.1	52.3	8,446.0	14,566.7	540.6	470.5
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		597,730	3.8	9.9	5.4	3.0			2,271.4	5,917.5	3,227.7	1,793.2		2,271.4	5,917.5	3,227.7	1,793.2	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		3,057	90.0%	85.0%	40.0%	0.0%			741.5	7,814.5	800.5	1,192.8		741.5	7,814.5	800.5	1,192.8	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									3,012.9	13,732.0	4,028.2	2,986.0		3,012.9	13,732.0	4,028.2	2,986.0	0.0	0.0	0.0	0.0
	Industry	Private		5,064	12,283.3	86,294.6	2,209.8	1,975.8			4,867.8	34,198.0	875.7	783.0	0.80	3,894.2	27,358.4	700.6	626.4	973.6	6,839.6	175.1	156.6
		Public		315	8.0	286.2	0.0	0.0			8.0	286.2	0.0	0.0	0.80	6.4	229.0	0.0	0.0	1.6	57.2	0.0	0.0
		Total									4,875.7	34,484.2	875.7	783.0		3,900.6	27,587.3	700.6	626.4	975.1	6,896.8	175.1	156.6
	Total										17,273.1	64,401.5	5,504.6	4,291.8		7,852.0	42,937.9	4,788.9	3,664.7	9,421.2	21,463.6	715.8	627.1
Non-Point Load	Land Use System	Forest		32,364	0.0057	0.0115	0.00227	0.00006	802		408.8	817.6	161.3	4.1	0.10	40.9	81.8	16.1	0.4	367.9	735.8	145.2	3.7
		Building and Road		26,019	0.0773	0.1545	0.00327	0.00144	802		4,417.0	8,834.0	186.7	82.1	0.30	1,325.1	2,650.2	56.0	24.6	3,091.9	6,183.8	130.7	57.4
		Irrigated Land		27,288	0.0446	0.0892	0.00828	0.00075	802	500	4,341.4	8,682.8	806.0	73.2	0.10	434.1	868.3	80.6	7.3	3,907.3	7,814.5	725.4	65.9
		Non-irrigated Land		95,954	0.0446	0.0892	0.00828	0.00075	802		9,403.2	18,806.5	1,745.7	158.6	0.10	940.3	1,880.6	174.6	15.9	8,462.9	16,925.8	1,571.1	142.7
		Total									18,570.4	37,140.8	2,899.7	317.9		2,740.4	5,480.9	327.3	48.2	15,830.0	31,660.0	2,572.4	269.7
	Live Stock System	Catle		59,681	0.0044	0.0217	0.00242	0.00042	802		211.4	1,037.1	115.7	19.9	0.10	21.1	103.7	11.6	2.0	190.3	933.3	104.1	17.9
		Seep and Goat		30,675	0.0011	0.0054	0.00061	0.00010	802		26.7	133.3	15.0	2.6		2.7	13.3	1.5	0.3	24.0	119.9	13.5	2.3
		Total									238.1	182.1	182.1	182.1		23.8	117.0	13.1	2.3	214.2	1,053.3	117.6	20.3
	Total										18,808.5	37,322.9	3,081.8	500.0		2,764.2	5,597.9	340.4	50.5	16,044.2	32,713.2	2,690.0	290.0
Total											36,081.6	101,724.4	8,586.4	4,791.8		10,616.2	48,535.8	5,129.2	3,715.2	25,465.4	54,176.8	3,405.8	917.1

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

123,763 129,142 1.494696

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.74	0.88	0.93	0.99	2.4	1.1	0.7	0.2
2025/2006	0.47	0.81	1.09	1.94	1.1	1.1	1.1	1.2

Table A8.1.3 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 2: 2025)

Lattakia

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	766,686																			
			Pit Latrine	418,814	23.9	41.3	1.5	1.3			9,993.1	17,276.1	635.5	556.1	0.10	999.3	1,727.6	63.6	55.6	8,993.8	15,548.5	572.0	500.5
		Tourist	Hotel Guest	1,436	32.3	56.1	7.7	2.6			46.4	80.6	11.0	3.7		4.6	8.1	1.1	0.4	41.7	72.5	9.9	3.3
		Total									10,039.5	17,356.6	646.5	559.8		1,003.9	1,735.7	64.7	56.0	9,035.5	15,621.0	581.9	503.8
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		766,686	3.8	9.9	5.4	3.0			2,913.4	7,590.2	4,140.1	2,300.1	1.00	2,913.4	7,590.2	4,140.1	2,300.1	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		4,755	90.0%	85.0%	40.0%	0.0%			732.4	6,966.1	614.0	830.5		732.4	6,966.1	614.0	830.5	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									3,645.8	14,556.3	4,754.1	3,130.6		3,645.8	14,556.3	4,754.1	3,130.6	0.0	0.0	0.0	0.0
	Industry	Private		7,352	11,325.3	71,809.7	1,582.3	1,284.2			4,001.0	25,369.0	559.0	453.7	0.80	3,200.8	20,295.2	447.2	362.9	800.2	5,073.8	111.8	90.7
		Public		3,956	1,998.1	12,576.9	254.4	37.1			1,807.3	10,629.2	212.0	31.8	0.80	1,445.8	8,503.3	169.6	25.4	361.5	2,125.8	42.4	6.4
		Total									5,808.3	35,998.1	771.0	485.5		4,646.6	28,798.5	616.8	388.4	1,161.7	7,199.6	154.2	97.1
	Total										19,493.6	67,911.0	6,171.6	4,175.8		9,296.4	45,090.5	5,435.5	3,574.9	10,197.2	22,820.6	736.1	600.9
Non-Point Load	Land Use System	Forest		88,420	0.0057	0.0115	0.00227	0.00006	710		988.7	1,977.4	390.1	9.8	0.10	98.9	197.7	39.0	1.0	889.8	1,779.6	351.1	8.9
		Building and Road		26,085	0.0773	0.1545	0.00327	0.00144	710		3,920.2	7,840.5	165.7	72.8	0.30	1,176.1	2,352.1	49.7	21.8	2,744.2	5,488.3	116.0	51.0
		Irrigated Land		37,746	0.0446	0.0892	0.00828	0.00075	710	500	5,580.8	11,161.6	1,036.1	94.1	0.10	558.1	1,116.2	103.6	9.4	5,022.7	10,045.5	932.5	84.7
		Non-irrigated Land		60,266	0.0446	0.0892	0.00828	0.00075	710		5,228.4	10,456.8	970.7	88.2	0.10	522.8	1,045.7	97.1	8.8	4,705.6	9,411.1	873.6	79.3
		Total							710		15,718.2	31,436.3	2,562.6	264.9		2,355.9	4,711.7	289.4	41.1	13,362.3	26,724.6	2,273.2	223.9
	Live Stock System	Catle		62,705	0.0044	0.0217	0.00242	0.00042	710		196.6	964.6	107.6	18.6		19.7	96.5	10.8	1.9	177.0	868.2	96.8	16.7
		Seep and Goat		23,228	0.0011	0.0054	0.00061	0.00010	710		17.9	89.3	10.0	1.7	0.10	1.8	8.9	1.0	0.2	16.1	80.4	9.0	1.5
		Total									214.5	1,053.9	117.6	20.3		21.4	105.4	11.8	2.0	193.0	948.6	105.9	18.2
	Total										15,932.7	32,490.3	2,680.2	285.2		2,377.3	4,817.1	301.2	43.1	13,555.3	27,673.1	2,379.1	242.1
Total											35,426.3	100,401.3	8,851.8	4,461.0		11,673.7	49,907.6	5,736.7	3,618.0	23,752.5	50,493.7	3,115.1	843.0

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

148,188 159,496 1.846023

Point-Load/Total-Load

	BOD	COD	T-N	T-P
Point/NonPoint	0.80	0.90	0.95	0.99
2025/2006	0.43	0.75	1.00	1.72

Infiltration/Runoff

BOD	COD	T-N	T-P
2.0	1.0	0.5	0.2
1.1	1.1	1.1	1.2

Raqqa

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	577,060																			
			Pit Latrine	915,440	23.9	41.3	1.5	1.3			21,842.8	37,761.9	1,389.1	1,215.6	0.10	2,184.3	3,776.2	138.9	121.6	19,658.5	33,985.7	1,250.2	1,094.0
		Tourist	Hotel Guest	105	32.3	56.1	7.7	2.6			3.4	5.9	0.8	0.3		0.3	0.6	0.1	0.0	3.0	5.3	0.7	0.2
		Total									21,846.2	37,767.8	1,389.9	1,215.9		2,184.6	3,776.8	139.0	121.6	19,661.6	33,991.0	1,250.9	1,094.3
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		577,060	3.8	9.9	5.4	3.0			2,192.8	5,712.9	3,116.1	1,731.2	1.00	2,192.8	5,712.9	3,116.1	1,731.2	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		960	90.0%	85.0%	40.0%	0.0%			78.6	693.5	34.3	15.5		78.6	693.5	34.3	15.5	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									2,271.4	6,406.4	3,150.4	1,746.7		2,271.4	6,406.4	3,150.4	1,746.7	0.0	0.0	0.0	0.0
	Industry	Private		2,484	2,033.1	11,957.9	147.9	40.0			1,247.0	7,334.5	90.7	24.5	0.80	997.6	5,867.6	72.6	19.6	249.4	1,466.9	18.1	4.9
		Public		30,740	43,036.0	61,480.0	768.5	169.6			11,037.3	18,815.0	275.6	61.0	0.80	8,829.8	15,052.0	220.5	48.8	2,207.5	3,763.0	55.1	12.2
		Total									12,284.3	26,149.5	366.3	85.5		9,827.4	20,919.6	293.0	68.4	2,456.9	5,229.9	73.3	17.1
	Total										36,401.9	70,323.7	4,906.7	3,048.0		14,283.5	31,102.8	3,582.5	1,936.6	22,118.4	39,220.9	1,324.2	1,111.4
Non-Point Load	Land Use System	Forest		22,085	0.0057	0.0115	0.00227	0.00006	169		58.8	117.6	23.2	0.6	0.10	5.9	11.8	2.3	0.1	52.9	105.8	20.9	0.5
		Building and Road		72,562	0.0773	0.1545	0.00327	0.00144	169		2,595.7	5,191.5	109.7	48.2	0.30	778.7	1,557.4	32.9	14.5	1,817.0	3,634.0	76.8	33.8
		Irrigated Land		290,167	0.0446	0.0892	0.00828	0.00075	169	1100	44,993.8	89,987.5	8,353.1	758.7	0.10	4,499.4	8,998.8	835.3	75.9	40,494.4	80,988.8	7,517.8	682.9
		Non-irrigated Land		225,960	0.0446	0.0892	0.00828	0.00075	169		4,666.2	9,332.3	866.3	78.7	0.10	466.6	933.2	86.6	7.9	4,199.6	8,399.1	779.6	70.8
		Total									52,314.4	104,628.9	9,352.3	886.2		5,750.6	11,501.2	957.2	98.3	46,563.8	93,127.7	8,395.1	787.9
	Live Stock System	Catle		21,535	0.0044	0.0217	0.00242	0.00042	169		16.1	78.9	8.8	1.5		1.6	7.9	0.9	0.2	14.5	71.0	7.9	1.4
		Seep and Goat		2,987,413	0.0011	0.0054	0.00061	0.00010	169		546.9	2,734.7	307.1	52.6	0.10	54.7	273.5	30.7	5.3	492.3	2,461.3	276.4	47.3
		Total									563.0	2,813.6	315.9	54.1		56.3	281.4	31.6	5.4	506.7	2,532.2	284.3	48.7
	Total										52,877.5	107,442.5	9,668.2	940.3		5,806.9	11,782.5	988.8	103.7	47,070.6	95,659.9	8,679.5	836.6
Total											89,279.4	177,766.1	14,574.9	3,988.3		20,090.4	42,885.3	4,571.2	2,040.3	69,189.0	134,880.8	10,003.7	1,948.0

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

Point-Load/Total-Load

	BOD	COD	T-N	T-P
Point/NonPoint	0.71	0.73	0.78	0.95
2025/2006	1.05	1.16	1.43	2.19

Infiltration/Runoff

BOD	COD	T-N	T-P
3.4	3.1	2.2	1.0
1.3	1.4	1.3	1.5

Table A8.1.3 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 2: 2025)

Dier-Ez-zor

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	840,198																			
			Pit Latrine	953,502	23.9	41.3	1.5	1.3			22,751.0	39,332.0	1,446.9	1,266.1	0.10	2,275.1	3,933.2	144.7	126.6	20,475.9	35,398.8	1,302.2	1,139.5
		Tourist	Hotel Guest	202	32.3	56.1	7.7	2.6			6.5	11.3	1.5	0.5		0.7	1.1	0.2	0.1	5.9	10.2	1.4	0.5
		Total									22,757.5	39,343.3	1,448.4	1,266.6		2,275.8	3,934.3	144.8	126.7	20,481.8	35,408.9	1,303.6	1,140.0
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		840198	3.8	9.9	5.4	3.0			3,192.8	8,318.0	4,537.1	2,520.6	1.00	3,192.8	8,318.0	4,537.1	2,520.6	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		1,205	90.0%	85.0%	40.0%	0.0%			153.6	954.4	39.5	27.8		153.6	954.4	39.5	27.8	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									3,346.4	9,272.4	4,576.5	2,548.4		3,346.4	9,272.4	4,576.5	2,548.4	0.0	0.0	0.0	0.0
	Industry	Private		2,572	3,279.6	13,583.9	140.5	59.4			1,743.4	7,221.0	74.7	31.6	0.80	1,394.7	5,776.8	59.7	25.2	348.7	1,444.2	14.9	6.3
		Public		39,512	37,820.8	69,130.6	235.9	1,036.2			28,500.8	56,455.6	209.4	834.8	0.80	22,800.6	45,164.5	167.5	667.8	5,700.2	11,291.1	41.9	167.0
		Total									30,244.2	63,676.6	284.0	866.3		24,195.3	50,941.3	227.2	693.0	6,048.8	12,735.3	56.8	173.3
	Total										56,348.0	112,292.2	6,309.0	4,681.3		29,817.5	64,148.0	4,948.6	3,368.1	26,530.6	48,144.3	1,360.4	1,313.2
Non-Point Load	Land Use System	Forest		10,955	0.0057	0.0115	0.00227	0.00006	149		25.7	51.4	10.1	0.3	0.10	2.6	5.1	1.0	0.0	23.1	46.3	9.1	0.2
		Building and Road		29,735	0.0773	0.1545	0.00327	0.00144	149		937.8	1,875.6	39.6	17.4	0.30	281.3	562.7	11.9	5.2	656.5	1,312.9	27.8	12.2
		Irrigated Land		214,161	0.0446	0.0892	0.00828	0.00075	149	1100	32,684.7	65,369.3	6,067.9	551.2	0.10	3,268.5	6,536.9	606.8	55.1	29,416.2	58,832.4	5,461.1	496.0
		Non-irrigated Land		23,486	0.0446	0.0892	0.00828	0.00075	149		427.6	855.2	79.4	7.2	0.10	42.8	85.5	7.9	0.7	384.8	769.7	71.4	6.5
		Total									34,075.8	68,151.5	6,197.1	576.0		3,595.1	7,190.3	627.6	61.1	30,480.6	60,961.2	5,569.5	515.0
	Live Stock System	Catle		281,812	0.0044	0.0217	0.00242	0.00042	149		185.5	909.8	101.5	17.5	0.10	18.5	91.0	10.1	1.7	166.9	818.8	91.3	15.7
		Seep and Goat		3,546,945	0.0011	0.0054	0.00061	0.00010	149		572.5	2,862.7	321.5	55.1		57.3	286.3	32.2	5.5	515.3	2,576.4	289.4	49.5
		Total									758.0	3,772.5	423.0	72.5		75.8	377.2	42.3	7.3	682.2	3,395.2	380.7	65.3
	Total										34,833.8	71,924.0	6,620.1	648.6		3,670.9	7,567.5	669.9	68.3	31,162.8	64,356.5	5,950.1	580.2
Total											91,181.8	184,216.2	12,929.0	5,329.9		33,488.4	71,715.5	5,618.5	3,436.5	57,693.4	112,500.7	7,310.5	1,893.5

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.89	0.89	0.88	0.98	1.7	1.6	1.3	0.6
2025/2006	1.11	1.24	1.21	2.00	1.6	1.6	1.5	1.6

Hassakeh

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	751,091																			
			Pit Latrine	1,022,009	23.9	41.3	1.5	1.3			24,385.6	42,157.9	1,550.8	1,357.1	0.10	2,438.6	4,215.8	155.1	135.7	21,947.0	37,942.1	1,395.8	1,221.4
		Tourist	Hotel Guest	285	32.3	56.1	7.7	2.6			9.2	16.0	2.2	0.7		0.9	1.6	0.2	0.1	8.3	14.4	2.0	0.7
		Total									24,394.8	42,173.9	1,553.0	1,357.8		2,439.5	4,217.4	155.3	135.8	21,955.3	37,956.5	1,397.7	1,222.0
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		751,091	3.8	9.9	5.4	3.0			2,854.1	7,435.8	4,055.9	2,253.3	1.00	2,854.1	7,435.8	4,055.9	2,253.3	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		2,124	90.0%	85.0%	40.0%	0.0%			183.6	1,437.2	76.0	32.1		183.6	1,437.2	76.0	32.1	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									3,037.8	8,873.0	4,131.9	2,285.4		3,037.8	8,873.0	4,131.9	2,285.4	0.0	0.0	0.0	0.0
	Industry	Private		5,014	4,334.6	22,618.3	298.9	75.8			2,498.5	13,037.1	172.3	43.7	0.80	1,998.8	10,429.7	137.8	34.9	499.7	2,607.4	34.5	8.7
		Public		204	5.3	196.1	0.0	0.0			5.3	196.1	0.0	0.0	0.80	4.2	156.9	0.0	0.0	1.1	39.2	0.0	0.0
		Total									2,503.8	13,233.2	172.3	43.7		2,003.0	10,586.6	137.8	34.9	500.8	2,646.6	34.5	8.7
	Total										29,936.3	64,280.1	5,857.2	3,686.9		7,480.2	23,676.9	4,425.0	2,456.1	22,456.1	40,603.1	1,432.2	1,230.8
Non-Point Load	Land Use System	Forest		163,529	0.0057	0.0115	0.00227	0.00006	227		584.6	1,169.2	230.7	5.8	0.10	58.5	116.9	23.1	0.6	526.2	1,052.3	207.6	5.2
		Building and Road		72,031	0.0773	0.1545	0.00327	0.00144	227		3,461.0	6,922.1	146.3	64.3	0.30	1,038.3	2,076.6	43.9	19.3	2,422.7	4,845.4	102.4	45.0
		Irrigated Land		703,013	0.0446	0.0892	0.00828	0.00075	227	1000	105,402.2	210,804.5	19,567.9	1,777.4	0.10	10,540.2	21,080.4	1,956.8	177.7	94,862.0	189,724.0	17,611.2	1,599.6
		Non-irrigated Land		514,192	0.0446	0.0892	0.00828	0.00075	227		14,262.4	28,524.8	2,647.8	240.5	0.10	1,426.2	2,852.5	264.8	24.1	12,836.2	25,672.3	2,383.0	216.5
		Total									123,710.3	247,420.6	22,592.8	2,088.0		13,063.2	26,126.5	2,288.5	221.7	110,647.1	221,294.1	20,304.2	1,866.3
	Live Stock System	Catle		115,826	0.0044	0.0217	0.00242	0.00042	227		116.1	569.7	63.5	11.0	0.10	11.6	57.0	6.4	1.1	104.5	512.7	57.2	9.9
		Seep and Goat		2,773,535	0.0011	0.0054	0.00061	0.00010	227		682.1	3,410.3	383.0	65.6		68.2	341.0	38.3	6.6	613.9	3,069.3	344.7	59.0
		Total									798.2	3,980.0	446.5	76.5		79.8	398.0	44.7	7.7	718.4	3,582.0	401.9	68.9
	Total										124,508.5	251,400.6	23,039.3	2,164.5		13,143.1	26,524.5	2,333.2	229.3	111,365.4	224,876.1	20,706.1	1,935.2
Total											154,444.8	315,680.6	28,896.5	5,851.4		20,623.3	50,201.4	6,758.2	2,685.4	133,821.5	265,479.2	22,138.3	3,166.0

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.36	0.47	0.65	0.91	6.5	5.3	3.3	1.2
2025/2006	0.67	0.82	1.08	1.55	1.3	1.3	1.3	1.3

Table A8.1.3 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 2: 2025)

Quneitra

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day)				Runoff Rate	Runoff Load in 2025 (kg/day)				Infiltration Load in 2025 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	57,262																			
			Pit Latrine	51,738	23.9	41.3	1.5	1.3			1,234.5	2,134.2	78.5	68.7	0.10	123.4	213.4	7.9	6.9	1,111.0	1,920.8	70.7	61.8
		Tourist	Hotel Guest	0	32.3	56.1	7.7	2.6			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									1,234.5	2,134.2	78.5	68.7		123.4	213.4	7.9	6.9	1,111.0	1,920.8	70.7	61.8
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		57,262	3.8	9.9	5.4	3.0			217.6	566.9	309.2	171.8	1.00	217.6	566.9	309.2	171.8	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		74	90.0%	85.0%	40.0%	0.0%			14.2	91.2	1.8	1.9		14.2	91.2	1.8	1.9	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									231.8	658.0	311.0	173.7		231.8	658.0	311.0	173.7	0.0	0.0	0.0	0.0
	Industry	Private		142	269.8	1,156.7	5.6	3.7			128.0	549.1	2.6	1.8	0.80	102.4	439.2	2.1	1.4	25.6	109.8	0.5	0.4
		Public		0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									128.0	549.1	2.6	1.8		102.4	439.2	2.1	1.4	25.6	109.8	0.5	0.4
	Total										1,594.3	3,341.3	392.1	244.2		457.7	1,310.7	320.9	182.0	1,136.7	2,030.6	71.2	62.2
Non-Point Load	Land Use System	Forest		4,435	0.0057	0.0115	0.00227	0.00006	214		14.9	29.9	5.9	0.1	0.10	1.5	3.0	0.6	0.0	13.5	26.9	5.3	0.1
		Building and Road		7,534	0.0773	0.1545	0.00327	0.00144	214		341.3	682.6	14.4	6.3	0.30	102.4	204.8	4.3	1.9	238.9	477.8	10.1	4.4
		Irrigated Land		6,645	0.0446	0.0892	0.00828	0.00075	214	660	709.7	1,419.4	131.8	12.0	0.10	71.0	141.9	13.2	1.2	638.7	1,277.5	118.6	10.8
		Non-irrigated Land		16,495	0.0446	0.0892	0.00828	0.00075	214		431.3	862.6	80.1	7.3	0.10	43.1	86.3	8.0	0.7	388.2	776.4	72.1	6.5
		Total									1,497.3	2,994.5	232.2	25.7		218.0	436.0	26.1	3.8	1,279.3	2,558.6	206.1	21.9
	Live Stock System	Catle		26,951	0.0044	0.0217	0.00242	0.00042	214		25.5	125.0	13.9	2.4		2.5	12.5	1.4	0.2	22.9	112.5	12.5	2.2
		Seep and Goat		185,126	0.0011	0.0054	0.00061	0.00010	214		42.9	214.6	24.1	4.1	0.10	4.3	21.5	2.4	0.4	38.6	193.1	21.7	3.7
		Total									68.4	339.6	38.0	6.5		6.8	34.0	3.8	0.7	61.6	305.6	34.2	5.9
	Total										1,565.7	3,334.1	270.2	32.3		224.8	469.9	29.9	4.5	1,340.8	2,864.2	240.3	27.8
Total											3,160.0	6,675.4	662.3	276.5		682.5	1,780.6	350.8	186.5	2,477.5	4,894.7	311.5	89.9

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.67	0.74	0.91	0.98	3.6	2.7	0.9	0.5
2025/2006	0.40	0.56	1.01	1.63				

Aleppo

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day)				Runoff Rate	Runoff Load in 2025 (kg/day)				Infiltration Load in 2025 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	5,823,742																			
			Pit Latrine	1,261,858	23.9	41.3	1.5	1.3			30,108.5	52,051.6	1,914.8	1,675.6	0.10	3,010.9	5,205.2	191.5	167.6	27,097.7	46,846.5	1,723.3	1,508.0
		Tourist	Hotel Guest	2,694	32.3	56.1	7.7	2.6			87.0	151.1	20.6	6.9		8.7	15.1	2.1	0.7	78.3	136.0	18.5	6.2
		Total									30,195.5	52,202.8	1,935.4	1,682.5		3,019.6	5,220.3	193.5	168.2	27,176.0	46,982.5	1,741.9	1,514.2
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		5,823,742	3.8	9.9	5.4	3.0			22,130.2	57,655.0	31,448.2	17,471.2	1.00	22,130.2	57,655.0	31,448.2	17,471.2	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		83,575	90.0%	85.0%	40.0%	0.0%			6,024.6	67,908.5	5,677.4	5,385.9		6,024.6	67,908.5	5,677.4	5,385.9	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									28,154.8	125,563.6	37,125.6	22,857.2		28,154.8	125,563.6	37,125.6	22,857.2	0.0	0.0	0.0	0.0
	Industry	Private		101,684	73,299.8	550,817.3	11,512.7	6,552.9			13,053.8	98,093.8	2,050.3	1,167.0	0.80	10,443.0	78,475.0	1,640.2	933.6	2,610.8	19,618.8	410.1	233.4
		Public		14,986	9,497.6	39,005.4	628.1	114.0			371.0	3,243.6	132.5	26.5	0.80	296.8	2,594.9	106.0	21.2	74.2	648.7	26.5	5.3
		Total									13,424.8	101,337.4	2,182.8	1,193.5		10,739.8	81,069.9	1,746.2	954.8	2,685.0	20,267.5	436.6	238.7
	Total										71,775.1	279,103.7	41,243.8	25,733.1		41,914.2	211,853.8	39,065.4	23,980.2	29,860.9	67,250.0	2,178.4	1,752.9
Non-Point Load	Land Use System	Forest		69,468	0.0057	0.0115	0.00227	0.00006	364		398.2	796.5	157.1	4.0	0.10	39.8	79.6	15.7	0.4	358.4	716.8	141.4	3.6
		Building and Road		78,452	0.0773	0.1545	0.00327	0.00144	364		6,044.6	12,089.2	255.6	112.3	0.30	1,813.4	3,626.8	76.7	33.7	4,231.2	8,462.5	178.9	78.6
		Irrigated Land		279,178	0.0446	0.0892	0.00828	0.00075	364	1100	49,941.9	99,883.7	9,271.7	842.2	0.10	4,994.2	9,988.4	927.2	84.2	44,947.7	89,895.4	8,344.5	757.9
		Non-irrigated Land		647,992	0.0446	0.0892	0.00828	0.00075	364		28,821.3	57,642.5	5,350.7	486.0	0.10	2,882.1	5,764.3	535.1	48.6	25,939.1	51,878.3	4,815.6	437.4
		Total									85,206.0	170,412.0	15,035.1	1,444.4		9,729.5	19,459.0	1,554.6	166.9	75,476.5	150,952.9	13,480.5	1,277.5
	Live Stock System	Catle		99,173	0.0044	0.0217	0.00242	0.00042	364		159.4	782.1	87.2	15.0		15.9	78.2	8.7	1.5	143.5	703.9	78.5	13.5
		Seep and Goat		3,388,341	0.0011	0.0054	0.00061	0.00010	364		1,336.1	6,680.7	750.3	128.5	0.10	133.6	668.1	75.0	12.8	1,202.5	6,012.6	675.3	115.6
		Total									1,495.6	7,462.8	837.5	143.5		149.6	746.3	83.8	14.4	1,346.0	6,716.5	753.8	129.2
	Total										86,701.6	177,874.8	15,872.6	1,587.9		9,879.1	20,205.3	1,638.4	181.3	76,822.5	157,669.5	14,234.2	1,406.7
Total											158,476.7	456,978.5	57,116.4	27,321.0		51,793.3	232,059.1	40,703.8	24,161.4	106,683.4	224,919.4	16,412.7	3,159.6

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.81	0.91	0.96	0.99	2.1	1.0	0.4	0.1
2025/2006	0.61	0.98	1.47	1.94	1.2	1.2	1.2	1.3

Table A8.1.4 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 3: 2025)

Dra'a

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	720,944																			
			Pit Latrine	745,556	23.9	41.3	1.5	1.3			17,789.3	30,754.2	1,131.3	990.0	0.10	1,778.9	3,075.4	113.1	99.0	16,010.4	27,678.8	1,018.2	891.0
		Tourist	Hotel Guest	33	32.3	56.1	7.7	2.6			1.1	1.9	0.3	0.1		0.1	0.2	0.0	0.0	1.0	1.7	0.2	0.1
		Total									17,790.4	30,756.0	1,131.6	990.1		1,779.0	3,075.6	113.2	99.0	16,011.3	27,680.4	1,018.4	891.1
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		720,944	1.9	9.9	2.7	0.6			1,369.8	7,137.3	1,946.5	432.6	1.00	1,369.8	7,137.3	1,946.5	432.6	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		2,451	95.0%	85.0%	70.0%	80.0%			150.2	2,539.4	63.4	30.0		150.2	2,539.4	63.4	30.0	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									1,520.0	9,676.8	2,009.9	462.6		1,520.0	9,676.8	2,009.9	462.6	0.0	0.0	0.0	0.0
	Industry	Private		4,985	6,111.7	34,437.3	429.6	305.0			3,107.1	17,507.6	218.4	155.1	0.80	2,485.7	14,006.1	174.7	124.1	621.4	3,501.5	43.7	31.0
		Public		0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									3,107.1	17,507.6	218.4	155.1		2,485.7	14,006.1	174.7	124.1	621.4	3,501.5	43.7	31.0
	Total										22,417.5	57,940.4	3,359.9	1,607.7		5,784.8	26,758.5	2,297.8	685.6	16,632.8	31,182.0	1,062.1	922.1
Non-Point Load	Land Use System	Forest		13,073	0.0057	0.0115	0.00227	0.00006	214		44.1	88.1	17.4	0.4	0.10	4.4	8.8	1.7	0.0	39.7	79.3	15.6	0.4
		Building and Road		83,426	0.0773	0.1545	0.00327	0.00144	214		3,779.0	7,558.0	159.8	70.2	0.30	1,133.7	2,267.4	47.9	21.1	2,645.3	5,290.6	111.8	49.1
		Irrigated Land		48,389	0.0446	0.0892	0.00828	0.00075	214	660	5,167.7	10,335.4	959.4	87.1	0.10	516.8	1,033.5	95.9	8.7	4,650.9	9,301.9	863.4	78.4
		Non-irrigated Land		95,907	0.0446	0.0892	0.00828	0.00075	214		2,507.9	5,015.7	465.6	42.3	0.10	250.8	501.6	46.6	4.2	2,257.1	4,514.2	419.0	38.1
		Total									11,498.7	22,997.3	1,602.1	200.1		1,905.7	3,811.3	192.2	34.0	9,593.0	19,186.0	1,410.0	166.0
	Live Stock System	Catle		51,661	0.0044	0.0217	0.00242	0.00042	214		48.8	239.5	26.7	4.6		4.9	24.0	2.7	0.5	43.9	215.6	24.0	4.1
		Seep and Goat		551,241	0.0011	0.0054	0.00061	0.00010	214		127.8	639.0	71.8	12.3	0.10	12.8	63.9	7.2	1.2	115.0	575.1	64.6	11.1
		Total									176.6	878.5	98.5	16.9		17.7	87.9	9.8	1.7	159.0	790.7	88.6	15.2
	Total										11,675.3	23,875.8	1,700.6	217.0		1,923.3	3,899.2	202.0	35.7	9,751.9	19,976.6	1,498.6	181.2
Total											34,092.8	81,816.3	5,060.5	1,824.7		7,708.1	30,657.7	2,499.8	721.4	26,384.7	51,158.6	2,560.7	1,103.3

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)
188,298 2.179371

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.75	0.87	0.92	0.95	3.4	1.7	1.0	1.5
2025/2006	0.40	0.75	0.65	0.54	1.4	1.4	1.3	1.5

Rural Damascus

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	3,815,520																			
			Pit Latrine	685,180	23.9	41.3	1.5	1.3			16,348.7	28,263.7	1,039.7	909.8	0.10	1,634.9	2,826.4	104.0	91.0	14,713.8	25,437.3	935.7	818.8
		Tourist	Hotel Guest	318	32.3	56.1	7.7	2.6			10.3	17.9	2.4	0.8		1.0	1.8	0.2	0.1	9.3	16.1	2.2	0.7
		Total									16,359.0	28,281.5	1,042.2	910.6		1,635.9	2,828.2	104.2	91.1	14,723.1	25,453.4	937.9	819.6
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		3,815,520	1.9	9.9	2.7	0.6			7,249.5	37,773.6	10,301.9	2,289.3	1.00	7,249.5	37,773.6	10,301.9	2,289.3	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		44,233	95.0%	85.0%	70.0%	80.0%			1,723.9	28,182.5	691.2	235.5		1,723.9	28,182.5	691.2	235.5	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									8,973.4	65,956.1	10,993.1	2,524.8		8,973.4	65,956.1	10,993.1	2,524.8	0.0	0.0	0.0	0.0
	Industry	Private		52,176	40,669.6	221,622.7	2,717.8	1,389.1			6,191.5	33,739.5	413.8	211.5	0.80	4,953.2	26,991.6	331.0	169.2	1,238.3	6,747.9	82.8	42.3
		Public		22,915	11,856.1	65,831.3	1,298.5	296.8			11,257.2	62,791.8	1,187.2	275.6	0.80	9,005.8	50,233.4	949.8	220.5	2,251.4	12,558.4	237.4	55.1
		Total									17,448.7	96,531.3	1,601.0	487.1		13,958.9	77,225.0	1,280.8	389.7	3,489.7	19,306.3	320.2	97.4
	Total										42,781.1	190,768.9	13,636.2	3,922.6		24,568.2	146,009.3	12,378.1	3,005.6	18,212.8	44,759.6	1,258.1	917.0
Non-Point Load	Land Use System	Forest		76,704	0.0057	0.0115	0.00227	0.00006	111		134.1	268.2	52.9	1.3	0.10	13.4	26.8	5.3	0.1	120.7	241.4	47.6	1.2
		Building and Road		81,658	0.0773	0.1545	0.00327	0.00144	111		1,918.6	3,837.2	81.1	35.6	0.30	575.6	1,151.2	24.3	10.7	1,343.0	2,686.0	56.8	24.9
		Irrigated Land		110,452	0.0446	0.0892	0.00828	0.00075	111	990	14,859.4	29,718.9	2,758.7	250.6	0.10	1,485.9	2,971.9	275.9	25.1	13,373.5	26,747.0	2,482.8	225.5
		Non-irrigated Land		61,108	0.0446	0.0892	0.00828	0.00075	111		828.8	1,657.7	153.9	14.0	0.10	82.9	165.8	15.4	1.4	745.9	1,491.9	138.5	12.6
		Total									17,740.9	35,481.9	3,046.6	301.5		2,157.8	4,315.6	320.9	37.3	15,583.1	31,166.3	2,725.7	264.2
	Live Stock System	Catle		248,801	0.0044	0.0217	0.00242	0.00042	111		122.0	598.4	66.7	11.5		12.2	59.8	6.7	1.2	109.8	538.5	60.1	10.4
		Seep and Goat		2,079,905	0.0011	0.0054	0.00061	0.00010	111		250.1	1,250.5	140.4	24.0	0.10	25.0	125.1	14.0	2.4	225.1	1,125.5	126.4	21.6
		Total									372.1	1,848.9	207.2	35.6		37.2	184.9	20.7	3.6	334.9	1,664.0	186.5	32.0
	Total										18,113.0	37,330.8	3,253.7	337.1		2,195.0	4,500.5	341.6	40.8	15,918.0	32,830.3	2,912.1	296.2
Total											60,894.1	228,099.7	16,890.0	4,259.6		26,763.2	150,509.8	12,719.7	3,046.4	34,130.8	77,589.9	4,170.3	1,213.2

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.92	0.97	0.97	0.99	1.3	0.5	0.3	0.4
2025/2006	0.40	0.88	0.86	0.56	1.2	1.2	1.3	1.1

Table A8.1.4 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 3: 2025)

Damascus City

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	1,798,300																			
			Pit Latrine	0	23.9	41.3	1.5	1.3			0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Tourist	Hotel Guest	7,025	32.3	56.1	7.7	2.6			226.9	394.1	53.7	17.9		22.7	39.4	5.4	1.8	204.2	354.7	48.4	16.1
		Total									226.9	394.1	53.7	17.9		22.7	39.4	5.4	1.8	204.2	354.7	48.4	16.1
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		1,798,300	1.9	9.9	2.7	0.6			3,416.8	17,803.2	4,855.4	1,079.0		3,416.8	17,803.2	4,855.4	1,079.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		24,758	95.0%	85.0%	70.0%	80.0%			835.3	15,847.1	454.3	94.8		835.3	15,847.1	454.3	94.8	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									4,252.1	33,650.2	5,309.8	1,173.8		4,252.1	33,650.2	5,309.8	1,173.8	0.0	0.0	0.0	0.0
	Industry	Private		24,758	16,706.7	105,647.0	1,514.5	474.1			Connect to sewarage system with treatment plant				0.80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Public		17,750	5,366.3	42,773.7	712.9	212.0			1,605.9	20,609.1	432.0	58.3	0.80	1,284.7	16,487.2	345.6	46.6	321.2	4,121.8	86.4	11.7
		Total									1,605.9	20,609.1	432.0	58.3		1,284.7	16,487.2	345.6	46.6	321.2	4,121.8	86.4	11.7
	Total										6,084.9	54,653.4	5,795.4	1,250.0		5,559.5	50,176.9	5,660.7	1,222.2	525.4	4,476.5	134.8	27.8
Non-Point Load	Land Use System	Forest		1,090	0.0057	0.0115	0.00227	0.00006	184		3.2	6.3	1.2	0.0	0.10	0.3	0.6	0.1	0.0	2.8	5.7	1.1	0.0
		Building and Road		10,000	0.0773	0.1545	0.00327	0.00144	184		389.5	779.0	16.5	7.2	0.30	116.8	233.7	4.9	2.2	272.6	545.3	11.5	5.1
		Irrigated Land		696	0.0446	0.0892	0.00828	0.00075	184	990	99.8	199.7	18.5	1.7	0.10	10.0	20.0	1.9	0.2	89.9	179.7	16.7	1.5
		Non-irrigated Land		0	0.0446	0.0892	0.00828	0.00075	184		0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									492.5	985.0	36.2	9.0		127.1	254.3	6.9	2.3	365.3	730.7	29.3	6.6
	Live Stock System	Catle		25,288	0.0044	0.0217	0.00242	0.00042	184		20.6	100.8	11.2	1.9	0.10	2.1	10.1	1.1	0.2	18.5	90.7	10.1	1.7
		Seep and Goat		7,026	0.0011	0.0054	0.00061	0.00010	184		1.4	7.0	0.8	0.1		0.1	0.7	0.1	0.0	1.3	6.3	0.7	0.1
		Total									22.0	107.8	12.0	2.1		2.2	10.8	1.2	0.2	19.8	97.0	10.8	1.9
	Total										514.4	1,092.8	48.3	11.0		129.3	265.1	8.1	2.5	385.1	827.7	40.2	8.5
Total											6,599.3	55,746.2	5,843.7	1,261.0		5,688.9	50,441.9	5,668.8	1,224.8	910.5	5,304.2	174.9	36.3

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.98	0.99	1.00	1.00	0.2	0.1	0.0	0.0
2025/2006	0.79	1.81	0.64	0.25	1.3	1.9	1.5	1.5

Tartous

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	597,730																			
			Pit Latrine	392,370	23.9	41.3	1.5	1.3			9,362.1	16,185.3	595.4	521.0	0.10	936.2	1,618.5	59.5	52.1	8,425.9	14,566.7	535.9	468.9
		Tourist	Hotel Guest	691	32.3	56.1	7.7	2.6			22.3		5.3	1.8		2.2	0.0	0.5	0.2	20.1	0.0	4.8	1.6
		Total									9,384.5	16,185.3	600.7	522.8		938.4	1,618.5	60.1	52.3	8,446.0	14,566.7	540.6	470.5
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		597,730	1.9	9.9	2.7	0.6			1,135.7	5,917.5	1,613.9	358.6		1,135.7	5,917.5	1,613.9	358.6	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		3,057	95.0%	85.0%	70.0%	80.0%			370.8	7,814.5	400.2	238.6		370.8	7,814.5	400.2	238.6	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									1,506.5	13,732.0	2,014.1	597.2		1,506.5	13,732.0	2,014.1	597.2	0.0	0.0	0.0	0.0
	Industry	Private		5,064	12,283.3	86,294.6	2,209.8	1,975.8			4,867.8	34,198.0	875.7	783.0	0.80	3,894.2	27,358.4	700.6	626.4	973.6	6,839.6	175.1	156.6
		Public		315	8.0	286.2	0.0	0.0			8.0	286.2	0.0	0.0	0.80	6.4	229.0	0.0	0.0	1.6	57.2	0.0	0.0
		Total									4,875.7	34,484.2	875.7	783.0		3,900.6	27,587.3	700.6	626.4	975.1	6,896.8	175.1	156.6
	Total										15,766.7	64,401.5	3,490.5	1,903.0		6,345.5	42,937.9	2,774.8	1,275.9	9,421.2	21,463.6	715.8	627.1
Non-Point Load	Land Use System	Forest		32,364	0.0057	0.0115	0.00227	0.00006	802		408.8	817.6	161.3	4.1	0.10	40.9	81.8	16.1	0.4	367.9	735.8	145.2	3.7
		Building and Road		26,019	0.0773	0.1545	0.00327	0.00144	802		4,417.0	8,834.0	186.7	82.1	0.30	1,325.1	2,650.2	56.0	24.6	3,091.9	6,183.8	130.7	57.4
		Irrigated Land		27,288	0.0446	0.0892	0.00828	0.00075	802	500	4,341.4	8,682.8	806.0	73.2	0.10	434.1	868.3	80.6	7.3	3,907.3	7,814.5	725.4	65.9
		Non-irrigated Land		95,954	0.0446	0.0892	0.00828	0.00075	802		9,403.2	18,806.5	1,745.7	158.6	0.10	940.3	1,880.6	174.6	15.9	8,462.9	16,925.8	1,571.1	142.7
		Total									18,570.4	37,140.8	2,899.7	317.9		2,740.4	5,480.9	327.3	48.2	15,830.0	31,660.0	2,572.4	269.7
	Live Stock System	Catle		59,681	0.0044	0.0217	0.00242	0.00042	802		211.4	1,037.1	115.7	19.9	0.10	21.1	103.7	11.6	2.0	190.3	933.3	104.1	17.9
		Seep and Goat		30,675	0.0011	0.0054	0.00061	0.00010	802		26.7	133.3	15.0	2.6		2.7	13.3	1.5	0.3	24.0	119.9	13.5	2.3
		Total									238.1	182.1	182.1	182.1		23.8	117.0	13.1	2.3	214.2	1,053.3	117.6	20.3
	Total										18,808.5	37,322.9	3,081.8	500.0		2,764.2	5,597.9	340.4	50.5	16,044.2	32,713.2	2,690.0	290.0
Total											34,575.1	101,724.4	6,572.3	2,402.9		9,109.7	48,535.8	3,115.1	1,326.3	25,465.4	54,176.8	3,405.8	917.1

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

123,763 129,142 1.494696

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.70	0.88	0.89	0.96	2.8	1.1	1.1	0.7
2025/2006	0.40	0.81	0.66	0.69	1.1	1.1	1.1	1.2

Table A8.1.4 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 3: 2025)

Lattakia

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	766,686																			
			Pit Latrine	418,814	23.9	41.3	1.5	1.3			9,993.1	17,276.1	635.5	556.1	0.10	999.3	1,727.6	63.6	55.6	8,993.8	15,548.5	572.0	500.5
		Tourist	Hotel Guest	1,436	32.3	56.1	7.7	2.6			46.4	80.6	11.0	3.7		4.6	8.1	1.1	0.4	41.7	72.5	9.9	3.3
		Total									10,039.5	17,356.6	646.5	559.8		1,003.9	1,735.7	64.7	56.0	9,035.5	15,621.0	581.9	503.8
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		766,686	1.9	9.9	2.7	0.6			1,456.7	7,590.2	2,070.1	460.0	1.00	1,456.7	7,590.2	2,070.1	460.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		4,755	95.0%	85.0%	70.0%	80.0%			366.2	6,966.1	307.0	166.1		366.2	6,966.1	307.0	166.1	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									1,822.9	14,556.3	2,377.0	626.1		1,822.9	14,556.3	2,377.0	626.1	0.0	0.0	0.0	0.0
	Industry	Private		7,352	11,325.3	71,809.7	1,582.3	1,284.2			4,001.0	25,369.0	559.0	453.7	0.80	3,200.8	20,295.2	447.2	362.9	800.2	5,073.8	111.8	90.7
		Public		3,956	1,998.1	12,576.9	254.4	37.1			1,807.3	10,629.2	212.0	31.8	0.80	1,445.8	8,503.3	169.6	25.4	361.5	2,125.8	42.4	6.4
		Total									5,808.3	35,998.1	771.0	485.5		4,646.6	28,798.5	616.8	388.4	1,161.7	7,199.6	154.2	97.1
	Total										17,670.7	67,911.0	3,794.6	1,671.4		7,473.5	45,090.5	3,058.5	1,070.5	10,197.2	22,820.6	736.1	600.9
Non-Point Load	Land Use System	Forest		88,420	0.0057	0.0115	0.00227	0.00006	710		988.7	1,977.4	390.1	9.8	0.10	98.9	197.7	39.0	1.0	889.8	1,779.6	351.1	8.9
		Building and Road		26,085	0.0773	0.1545	0.00327	0.00144	710		3,920.2	7,840.5	165.7	72.8	0.30	1,176.1	2,352.1	49.7	21.8	2,744.2	5,488.3	116.0	51.0
		Irrigated Land		37,746	0.0446	0.0892	0.00828	0.00075	710	500	5,580.8	11,161.6	1,036.1	94.1	0.10	558.1	1,116.2	103.6	9.4	5,022.7	10,045.5	932.5	84.7
		Non-irrigated Land		60,266	0.0446	0.0892	0.00828	0.00075	710		5,228.4	10,456.8	970.7	88.2	0.10	522.8	1,045.7	97.1	8.8	4,705.6	9,411.1	873.6	79.3
		Total							710		15,718.2	31,436.3	2,562.6	264.9		2,355.9	4,711.7	289.4	41.1	13,362.3	26,724.6	2,273.2	223.9
	Live Stock System	Catle		62,705	0.0044	0.0217	0.00242	0.00042	710		196.6	964.6	107.6	18.6		19.7	96.5	10.8	1.9	177.0	868.2	96.8	16.7
		Seep and Goat		23,228	0.0011	0.0054	0.00061	0.00010	710		17.9	89.3	10.0	1.7	0.10	1.8	8.9	1.0	0.2	16.1	80.4	9.0	1.5
		Total									214.5	1,053.9	117.6	20.3		21.4	105.4	11.8	2.0	193.0	948.6	105.9	18.2
	Total										15,932.7	32,490.3	2,680.2	285.2		2,377.3	4,817.1	301.2	43.1	13,555.3	27,673.1	2,379.1	242.1
Total											33,603.4	100,401.3	6,474.8	1,956.6		9,850.8	49,907.6	3,359.7	1,113.6	23,752.5	50,493.7	3,115.1	843.0

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)
148,188 159,496 1.846023

	Point-Load/Total-Load BOD	COD	T-N	T-P	Infiltration/Runoff BOD	COD	T-N	T-P
Point/NonPoint	0.76	0.90	0.91	0.96	2.4	1.0	0.9	0.8
2025/2006	0.36	0.75	0.59	0.53	1.1	1.1	1.1	1.2

Raqqa

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025 BOD	COD	T-N	T-P	Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day) BOD	COD	T-N	T-P	Runoff Rate	Runoff Load in 2025 (kg/day) BOD	COD	T-N	T-P	Infiltration Load in 2025 (kg/day) BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	577,060																			
			Pit Latrine	915,440	23.9	41.3	1.5	1.3			21,842.8	37,761.9	1,389.1	1,215.6	0.10	2,184.3	3,776.2	138.9	121.6	19,658.5	33,985.7	1,250.2	1,094.0
		Tourist	Hotel Guest	105	32.3	56.1	7.7	2.6			3.4	5.9	0.8	0.3		0.3	0.6	0.1	0.0	3.0	5.3	0.7	0.2
		Total									21,846.2	37,767.8	1,389.9	1,215.9		2,184.6	3,776.8	139.0	121.6	19,661.6	33,991.0	1,250.9	1,094.3
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		577,060	1.9	9.9	2.7	0.6			1,096.4	5,712.9	1,558.1	346.2	1.00	1,096.4	5,712.9	1,558.1	346.2	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		960	95.0%	85.0%	70.0%	80.0%			39.3	693.5	17.2	3.1		39.3	693.5	17.2	3.1	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									1,135.7	6,406.4	1,575.2	349.3		1,135.7	6,406.4	1,575.2	349.3	0.0	0.0	0.0	0.0
	Industry	Private		2,484	2,033.1	11,957.9	147.9	40.0			1,247.0	7,334.5	90.7	24.5	0.80	997.6	5,867.6	72.6	19.6	249.4	1,466.9	18.1	4.9
		Public		30,740	43,036.0	61,480.0	768.5	169.6			11,037.3	18,815.0	275.6	61.0	0.80	8,829.8	15,052.0	220.5	48.8	2,207.5	3,763.0	55.1	12.2
		Total									12,284.3	26,149.5	366.3	85.5		9,827.4	20,919.6	293.0	68.4	2,456.9	5,229.9	73.3	17.1
	Total										35,266.2	70,323.7	3,331.4	1,650.7		13,147.7	31,102.8	2,007.2	539.3	22,118.4	39,220.9	1,324.2	1,111.4
Non-Point Load	Land Use System	Forest		22,085	0.0057	0.0115	0.00227	0.00006	169		58.8	117.6	23.2	0.6	0.10	5.9	11.8	2.3	0.1	52.9	105.8	20.9	0.5
		Building and Road		72,562	0.0773	0.1545	0.00327	0.00144	169		2,595.7	5,191.5	109.7	48.2	0.30	778.7	1,557.4	32.9	14.5	1,817.0	3,634.0	76.8	33.8
		Irrigated Land		290,167	0.0446	0.0892	0.00828	0.00075	169	1100	44,993.8	89,987.5	8,353.1	758.7	0.10	4,499.4	8,998.8	835.3	75.9	40,494.4	80,988.8	7,517.8	682.9
		Non-irrigated Land		225,960	0.0446	0.0892	0.00828	0.00075	169		4,666.2	9,332.3	866.3	78.7	0.10	466.6	933.2	86.6	7.9	4,199.6	8,399.1	779.6	70.8
		Total									52,314.4	104,628.9	9,352.3	886.2		5,750.6	11,501.2	957.2	98.3	46,563.8	93,127.7	8,395.1	787.9
	Live Stock System	Catle		21,535	0.0044	0.0217	0.00242	0.00042	169		16.1	78.9	8.8	1.5		1.6	7.9	0.9	0.2	14.5	71.0	7.9	1.4
		Seep and Goat		2,987,413	0.0011	0.0054	0.00061	0.00010	169		546.9	2,734.7	307.1	52.6	0.10	54.7	273.5	30.7	5.3	492.3	2,461.3	276.4	47.3
		Total									563.0	2,813.6	315.9	54.1		56.3	281.4	31.6	5.4	506.7	2,532.2	284.3	48.7
	Total										52,877.5	107,442.5	9,668.2	940.3		5,806.9	11,782.5	988.8	103.7	47,070.6	95,659.9	8,679.5	836.6
Total											88,143.6	177,766.1	12,999.7	2,591.0		18,954.6	42,885.3	2,996.0	643.0	69,189.0	134,880.8	10,003.7	1,948.0

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load BOD	COD	T-N	T-P	Infiltration/Runoff BOD	COD	T-N	T-P
Point/NonPoint	0.69	0.73	0.67	0.84	3.7	3.1	3.3	3.0
2025/2006	0.99	1.16	0.93	0.69	1.3	1.4	1.3	1.5

Table A8.1.4 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 3: 2025)

Dier-Ez-zor

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day)				Runoff Rate	Runoff Load in 2025 (kg/day)				Infiltration Load in 2025 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	840,198																			
			Pit Latrine	953,502	23.9	41.3	1.5	1.3			22,751.0	39,332.0	1,446.9	1,266.1	0.10	2,275.1	3,933.2	144.7	126.6	20,475.9	35,398.8	1,302.2	1,139.5
		Tourist	Hotel Guest	202	32.3	56.1	7.7	2.6			6.5	11.3	1.5	0.5		0.7	1.1	0.2	0.1	5.9	10.2	1.4	0.5
		Total									22,757.5	39,343.3	1,448.4	1,266.6		2,275.8	3,934.3	144.8	126.7	20,481.8	35,408.9	1,303.6	1,140.0
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		840198	1.9	9.9	2.7	0.6			1,596.4	8,318.0	2,268.5	504.1		1,596.4	8,318.0	2,268.5	504.1	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		1,205	95.0%	85.0%	70.0%	80.0%			76.8	954.4	19.7	5.6		76.8	954.4	19.7	5.6	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									1,673.2	9,272.4	2,288.3	509.7		1,673.2	9,272.4	2,288.3	509.7	0.0	0.0	0.0	0.0
	Industry	Private		2,572	3,279.6	13,583.9	140.5	59.4			1,743.4	7,221.0	74.7	31.6	0.80	1,394.7	5,776.8	59.7	25.2	348.7	1,444.2	14.9	6.3
		Public		39,512	37,820.8	69,130.6	235.9	1,036.2			28,500.8	56,455.6	209.4	834.8	0.80	22,800.6	45,164.5	167.5	667.8	5,700.2	11,291.1	41.9	167.0
		Total									30,244.2	63,676.6	284.0	866.3		24,195.3	50,941.3	227.2	693.0	6,048.8	12,735.3	56.8	173.3
	Total										54,674.9	112,292.2	4,020.7	2,642.6		28,144.3	64,148.0	2,660.3	1,329.4	26,530.6	48,144.3	1,360.4	1,313.2
Non-Point Load	Land Use System	Forest		10,955	0.0057	0.0115	0.00227	0.00006	149		25.7	51.4	10.1	0.3	0.10	2.6	5.1	1.0	0.0	23.1	46.3	9.1	0.2
		Building and Road		29,735	0.0773	0.1545	0.00327	0.00144	149		937.8	1,875.6	39.6	17.4	0.30	281.3	562.7	11.9	5.2	656.5	1,312.9	27.8	12.2
		Irrigated Land		214,161	0.0446	0.0892	0.00828	0.00075	149	1100	32,684.7	65,369.3	6,067.9	551.2	0.10	3,268.5	6,536.9	606.8	55.1	29,416.2	58,832.4	5,461.1	496.0
		Non-irrigated Land		23,486	0.0446	0.0892	0.00828	0.00075	149		427.6	855.2	79.4	7.2	0.10	42.8	85.5	7.9	0.7	384.8	769.7	71.4	6.5
		Total									34,075.8	68,151.5	6,197.1	576.0		3,595.1	7,190.3	627.6	61.1	30,480.6	60,961.2	5,569.5	515.0
	Live Stock System	Catle		281,812	0.0044	0.0217	0.00242	0.00042	149		185.5	909.8	101.5	17.5	0.10	18.5	91.0	10.1	1.7	166.9	818.8	91.3	15.7
		Seep and Goat		3,546,945	0.0011	0.0054	0.00061	0.00010	149		572.5	2,862.7	321.5	55.1		57.3	286.3	32.2	5.5	515.3	2,576.4	289.4	49.5
		Total									758.0	3,772.5	423.0	72.5		75.8	377.2	42.3	7.3	682.2	3,395.2	380.7	65.3
	Total										34,833.8	71,924.0	6,620.1	648.6		3,670.9	7,567.5	669.9	68.3	31,162.8	64,356.5	5,950.1	580.2
Total											89,508.6	184,216.2	10,640.8	3,291.2		31,815.2	71,715.5	3,330.3	1,397.7	57,693.4	112,500.7	7,310.5	1,893.5

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.88	0.89	0.80	0.95	1.8	1.6	2.2	1.4
2025/2006	1.05	1.24	0.72	0.81	1.6	1.6	1.5	1.6

Hassakeh

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day)				Runoff Rate	Runoff Load in 2025 (kg/day)				Infiltration Load in 2025 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	751,091																			
			Pit Latrine	1,022,009	23.9	41.3	1.5	1.3			24,385.6	42,157.9	1,550.8	1,357.1	0.10	2,438.6	4,215.8	155.1	135.7	21,947.0	37,942.1	1,395.8	1,221.4
		Tourist	Hotel Guest	285	32.3	56.1	7.7	2.6			9.2	16.0	2.2	0.7		0.9	1.6	0.2	0.1	8.3	14.4	2.0	0.7
		Total									24,394.8	42,173.9	1,553.0	1,357.8		2,439.5	4,217.4	155.3	135.8	21,955.3	37,956.5	1,397.7	1,222.0
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		751,091	1.9	9.9	2.7	0.6			1,427.1	7,435.8	2,027.9	450.7		1,427.1	7,435.8	2,027.9	450.7	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		2,124	95.0%	85.0%	70.0%	80.0%			91.8	1,437.2	38.0	6.4		91.8	1,437.2	38.0	6.4	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									1,518.9	8,873.0	2,065.9	457.1		1,518.9	8,873.0	2,065.9	457.1	0.0	0.0	0.0	0.0
	Industry	Private		5,014	4,334.6	22,618.3	298.9	75.8			2,498.5	13,037.1	172.3	43.7	0.80	1,998.8	10,429.7	137.8	34.9	499.7	2,607.4	34.5	8.7
		Public		204	5.3	196.1	0.0	0.0			5.3	196.1	0.0	0.0	0.80	4.2	156.9	0.0	0.0	1.1	39.2	0.0	0.0
		Total									2,503.8	13,233.2	172.3	43.7		2,003.0	10,586.6	137.8	34.9	500.8	2,646.6	34.5	8.7
	Total										28,417.5	64,280.1	3,791.3	1,858.6		5,961.4	23,676.9	2,359.1	627.8	22,456.1	40,603.1	1,432.2	1,230.8
Non-Point Load	Land Use System	Forest		163,529	0.0057	0.0115	0.00227	0.00006	227		584.6	1,169.2	230.7	5.8	0.10	58.5	116.9	23.1	0.6	526.2	1,052.3	207.6	5.2
		Building and Road		72,031	0.0773	0.1545	0.00327	0.00144	227		3,461.0	6,922.1	146.3	64.3	0.30	1,038.3	2,076.6	43.9	19.3	2,422.7	4,845.4	102.4	45.0
		Irrigated Land		703,013	0.0446	0.0892	0.00828	0.00075	227	1000	105,402.2	210,804.5	19,567.9	1,777.4	0.10	10,540.2	21,080.4	1,956.8	177.7	94,862.0	189,724.0	17,611.2	1,599.6
		Non-irrigated Land		514,192	0.0446	0.0892	0.00828	0.00075	227		14,262.4	28,524.8	2,647.8	240.5	0.10	1,426.2	2,852.5	264.8	24.1	12,836.2	25,672.3	2,383.0	216.5
		Total									123,710.3	247,420.6	22,592.8	2,088.0		13,063.2	26,126.5	2,288.5	221.7	110,647.1	221,294.1	20,304.2	1,866.3
	Live Stock System	Catle		115,826	0.0044	0.0217	0.00242	0.00042	227		116.1	569.7	63.5	11.0	0.10	11.6	57.0	6.4	1.1	104.5	512.7	57.2	9.9
		Seep and Goat		2,773,535	0.0011	0.0054	0.00061	0.00010	227		682.1	3,410.3	383.0	65.6		68.2	341.0	38.3	6.6	613.9	3,069.3	344.7	59.0
		Total									798.2	3,980.0	446.5	76.5		79.8	398.0	44.7	7.7	718.4	3,582.0	401.9	68.9
	Total										124,508.5	251,400.6	23,039.3	2,164.5		13,143.1	26,524.5	2,333.2	229.3	111,365.4	224,876.1	20,706.1	1,935.2
Total											152,925.9	315,680.6	26,830.6	4,023.1		19,104.4	50,201.4	4,692.3	857.1	133,821.5	265,479.2	22,138.3	3,166.0

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)

Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.31	0.47	0.50	0.73	7.0	5.3	4.7	3.7
2025/2006	0.62	0.82	0.75	0.49	1.3	1.3	1.3	1.3

Table A8.1.4 Summary of Discharge Load, Runoff Load and Infiltration Load in This Study Area (Case 3: 2025)

Quneitra

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day)				Runoff Rate	Runoff Load in 2025 (kg/day)				Infiltration Load in 2025 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	57,262																			
			Pit Latrine	51,738	23.9	41.3	1.5	1.3			1,234.5	2,134.2	78.5	68.7	0.10	123.4	213.4	7.9	6.9	1,111.0	1,920.8	70.7	61.8
		Tourist	Hotel Guest	0	32.3	56.1	7.7	2.6			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									1,234.5	2,134.2	78.5	68.7		123.4	213.4	7.9	6.9	1,111.0	1,920.8	70.7	61.8
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		57,262	1.9	9.9	2.7	0.6			108.8	566.9	154.6	34.4		108.8	566.9	154.6	34.4	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		74	95.0%	85.0%	70.0%	80.0%			7.1	91.2	0.9	0.4	1.00	7.1	91.2	0.9	0.4	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									115.9	658.0	155.5	34.7		115.9	658.0	155.5	34.7	0.0	0.0	0.0	0.0
	Industry	Private		142	269.8	1,156.7	5.6	3.7			128.0	549.1	2.6	1.8	0.80	102.4	439.2	2.1	1.4	25.6	109.8	0.5	0.4
		Public		0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Total									128.0	549.1	2.6	1.8		102.4	439.2	2.1	1.4	25.6	109.8	0.5	0.4
	Total										1,478.4	3,341.3	236.6	105.2		341.8	1,310.7	165.4	43.0	1,136.7	2,030.6	71.2	62.2
Non-Point Load	Land Use System	Forest		4,435	0.0057	0.0115	0.00227	0.00006	214		14.9	29.9	5.9	0.1	0.10	1.5	3.0	0.6	0.0	13.5	26.9	5.3	0.1
		Building and Road		7,534	0.0773	0.1545	0.00327	0.00144	214		341.3	682.6	14.4	6.3	0.30	102.4	204.8	4.3	1.9	238.9	477.8	10.1	4.4
		Irrigated Land		6,645	0.0446	0.0892	0.00828	0.00075	214	660	709.7	1,419.4	131.8	12.0	0.10	71.0	141.9	13.2	1.2	638.7	1,277.5	118.6	10.8
		Non-irrigated Land		16,495	0.0446	0.0892	0.00828	0.00075	214		431.3	862.6	80.1	7.3	0.10	43.1	86.3	8.0	0.7	388.2	776.4	72.1	6.5
		Total									1,497.3	2,994.5	232.2	25.7		218.0	436.0	26.1	3.8	1,279.3	2,558.6	206.1	21.9
	Live Stock System	Catle		26,951	0.0044	0.0217	0.00242	0.00042	214		25.5	125.0	13.9	2.4		2.5	12.5	1.4	0.2	22.9	112.5	12.5	2.2
		Seep and Goat		185,126	0.0011	0.0054	0.00061	0.00010	214		42.9	214.6	24.1	4.1	0.10	4.3	21.5	2.4	0.4	38.6	193.1	21.7	3.7
		Total									68.4	339.6	38.0	6.5		6.8	34.0	3.8	0.7	61.6	305.6	34.2	5.9
	Total										1,565.7	3,334.1	270.2	32.3		224.8	469.9	29.9	4.5	1,340.8	2,864.2	240.3	27.8
Total											3,044.1	6,675.4	506.8	137.5		566.6	1,780.6	195.4	47.5	2,477.5	4,894.7	311.5	89.9

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.60	0.74	0.85	0.91	4.4	2.7	1.6	1.9
2025/2006	0.34	0.56	0.56	0.42	1.3	1.3	1.2	1.5

Aleppo

Compartmentation of Pollution Load				Flame in 2025	Basic Unit for Discharge Load in 2025				Precipitation (mm)	Irrigation Water (mm)	Discharge Load in 2025 (kg/day)				Runoff Rate	Runoff Load in 2025 (kg/day)				Infiltration Load in 2025 (kg/day)			
					BOD	COD	T-N	T-P			BOD	COD	T-N	T-P		BOD	COD	T-N	T-P	BOD	COD	T-N	T-P
Point Load	Living System	Domestic System	Sewerage System	5,823,742																			
			Pit Latrine	1,261,858	23.9	41.3	1.5	1.3			30,108.5	52,051.6	1,914.8	1,675.6	0.10	3,010.9	5,205.2	191.5	167.6	27,097.7	46,846.5	1,723.3	1,508.0
		Tourist	Hotel Guest	2,694	32.3	56.1	7.7	2.6			87.0	151.1	20.6	6.9		8.7	15.1	2.1	0.7	78.3	136.0	18.5	6.2
		Total									30,195.5	52,202.8	1,935.4	1,682.5		3,019.6	5,220.3	193.5	168.2	27,176.0	46,982.5	1,741.9	1,514.2
	Sewerage System	Untreated Sewerage (Pipe Laying)		0	38.0	66.0	9.0	3.0			0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Secondary Treatment (Domestic)		5,823,742	1.9	9.9	2.7	0.6			11,065.1	57,655.0	15,724.1	3,494.2		11,065.1	57,655.0	15,724.1	3,494.2	0.0	0.0	0.0	0.0
		Secondary Treatment (Industry)		83,575	95.0%	85.0%	70.0%	80.0%			3,012.3	67,908.5	2,838.7	1,077.2	1.00	3,012.3	67,908.5	2,838.7	1,077.2	0.0	0.0	0.0	0.0
		Tertiary Treatment																					
		Total									14,077.4	125,563.6	18,562.8	4,571.4		14,077.4	125,563.6	18,562.8	4,571.4	0.0	0.0	0.0	0.0
	Industry	Private		101,684	73,299.8	550,817.3	11,512.7	6,552.9			13,053.8	98,093.8	2,050.3	1,167.0	0.80	10,443.0	78,475.0	1,640.2	933.6	2,610.8	19,618.8	410.1	233.4
		Public		14,986	9,497.6	39,005.4	628.1	114.0			371.0	3,243.6	132.5	26.5	0.80	296.8	2,594.9	106.0	21.2	74.2	648.7	26.5	5.3
		Total									13,424.8	101,337.4	2,182.8	1,193.5		10,739.8	81,069.9	1,746.2	954.8	2,685.0	20,267.5	436.6	238.7
	Total										57,697.7	279,103.7	22,681.0	7,447.4		27,836.8	211,853.8	20,502.6	5,694.5	29,860.9	67,250.0	2,178.4	1,752.9
Non-Point Load	Land Use System	Forest		69,468	0.0057	0.0115	0.00227	0.00006	364		398.2	796.5	157.1	4.0	0.10	39.8	79.6	15.7	0.4	358.4	716.8	141.4	3.6
		Building and Road		78,452	0.0773	0.1545	0.00327	0.00144	364		6,044.6	12,089.2	255.6	112.3	0.30	1,813.4	3,626.8	76.7	33.7	4,231.2	8,462.5	178.9	78.6
		Irrigated Land		279,178	0.0446	0.0892	0.00828	0.00075	364	1100	49,941.9	99,883.7	9,271.7	842.2	0.10	4,994.2	9,988.4	927.2	84.2	44,947.7	89,895.4	8,344.5	757.9
		Non-irrigated Land		647,992	0.0446	0.0892	0.00828	0.00075	364		28,821.3	57,642.5	5,350.7	486.0	0.10	2,882.1	5,764.3	535.1	48.6	25,939.1	51,878.3	4,815.6	437.4
		Total									85,206.0	170,412.0	15,035.1	1,444.4		9,729.5	19,459.0	1,554.6	166.9	75,476.5	150,952.9	13,480.5	1,277.5
	Live Stock System	Catle		99,173	0.0044	0.0217	0.00242	0.00042	364		159.4	782.1	87.2	15.0		15.9	78.2	8.7	1.5	143.5	703.9	78.5	13.5
		Seep and Goat		3,388,341	0.0011	0.0054	0.00061	0.00010	364		1,336.1	6,680.7	750.3	128.5	0.10	133.6	668.1	75.0	12.8	1,202.5	6,012.6	675.3	115.6
		Total									1,495.6	7,462.8	837.5	143.5		149.6	746.3	83.8	14.4	1,346.0	6,716.5	753.8	129.2
	Total										86,701.6	177,874.8	15,872.6	1,587.9		9,879.1	20,205.3	1,638.4	181.3	76,822.5	157,669.5	14,234.2	1,406.7
Total											144,399.3	456,978.5	38,553.6	9,035.3		37,715.9	232,059.1	22,140.9	5,875.7	106,683.4	224,919.4	16,412.7	3,159.6

Flame: Living System (person), Sewarage System (discharged volume or person), Industry (dischared volume (m3/day)), Land Use System (ha), Live Stock (head)
Basic Unit: Living System (g/person/day), Land Use (kg/ha/mm), Live Stock((g/head/day)/mm)

	Point-Load/Total-Load				Infiltration/Runoff			
Point/NonPoint	0.74	0.91	0.93	0.97	2.8	1.0	0.7	0.5
2025/2006	0.45	0.98	0.80	0.47	1.2	1.2	1.2	1.3

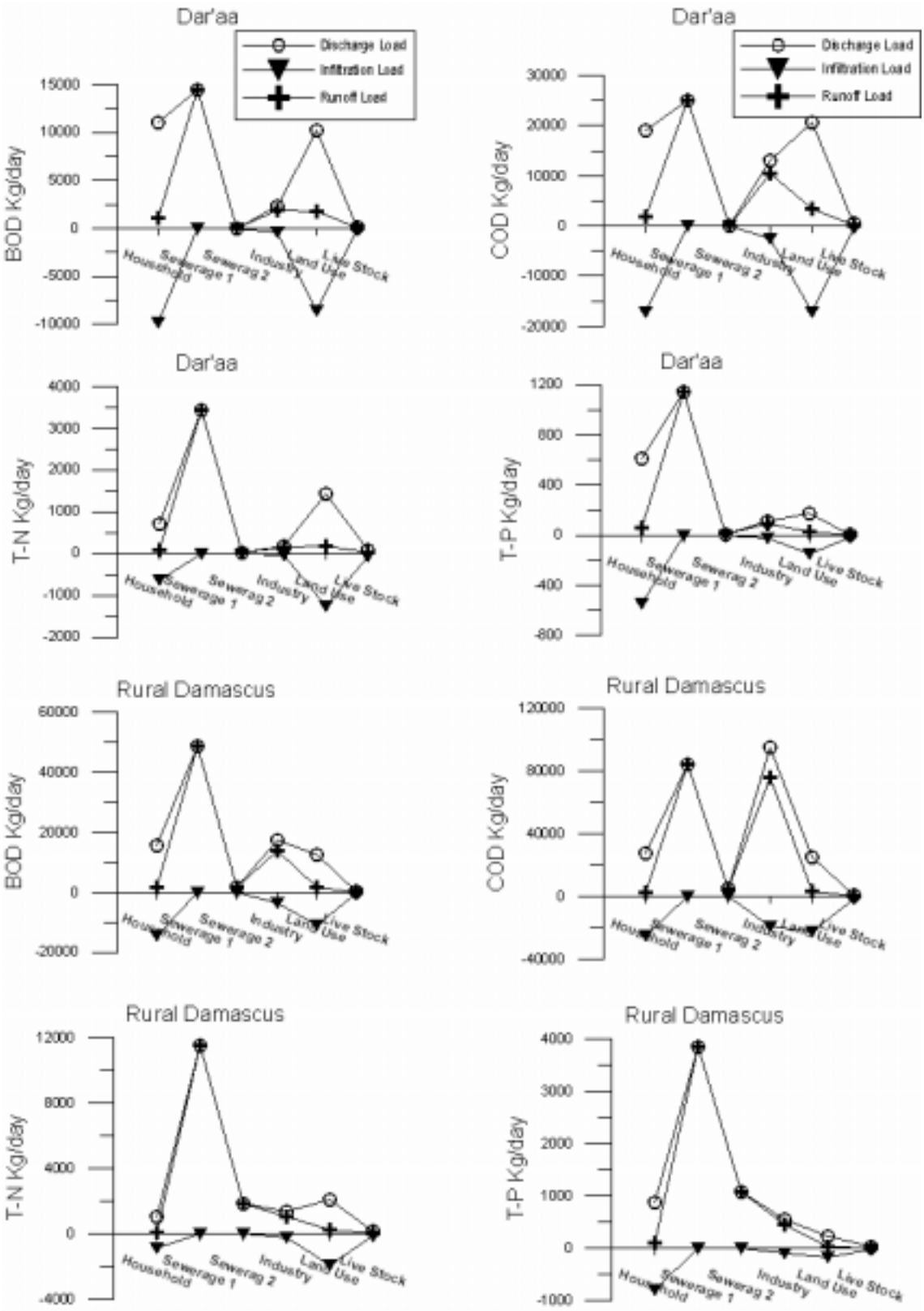

Figure A8.1.1 (1) Present Discharge Load, Runoff Load and Infiltration Load in Govenorates

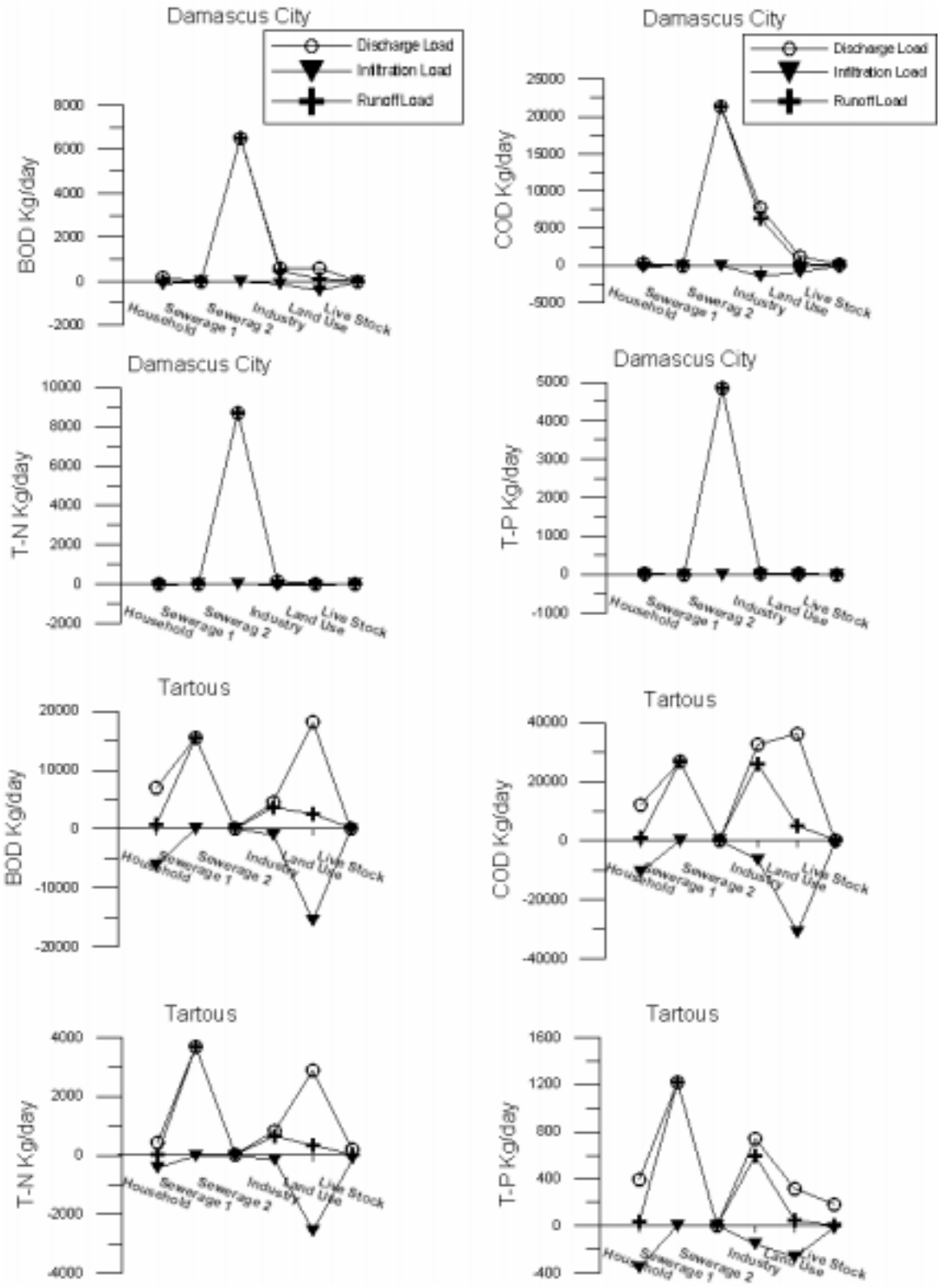

Figure A8.1.1 (2) Present Discharge Load, Runoff Load and Infiltration Load in Govenorates

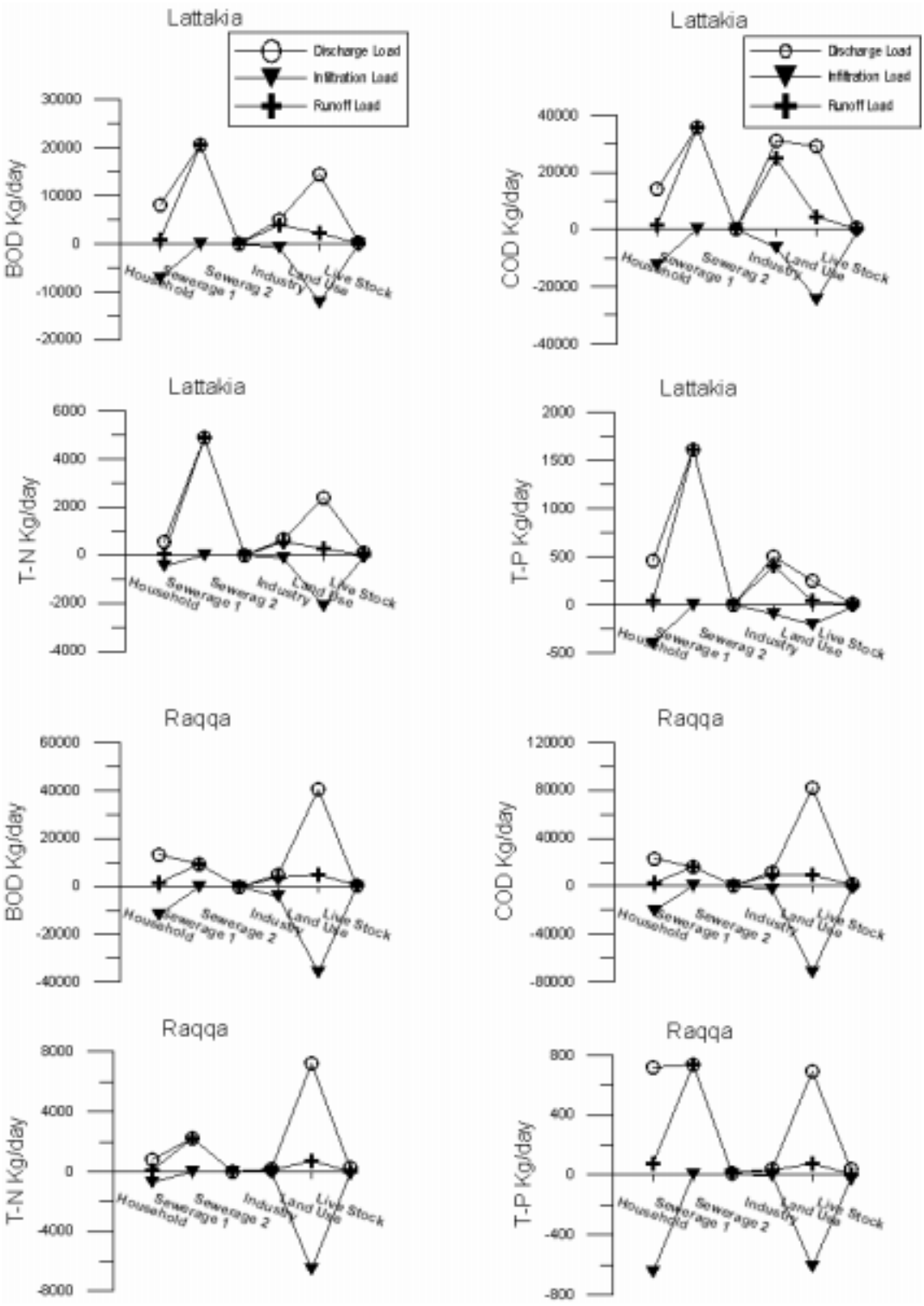

Figure A8.1.1 (3) Present Discharge Load, Runoff Load and Infiltration Load in Govenorates

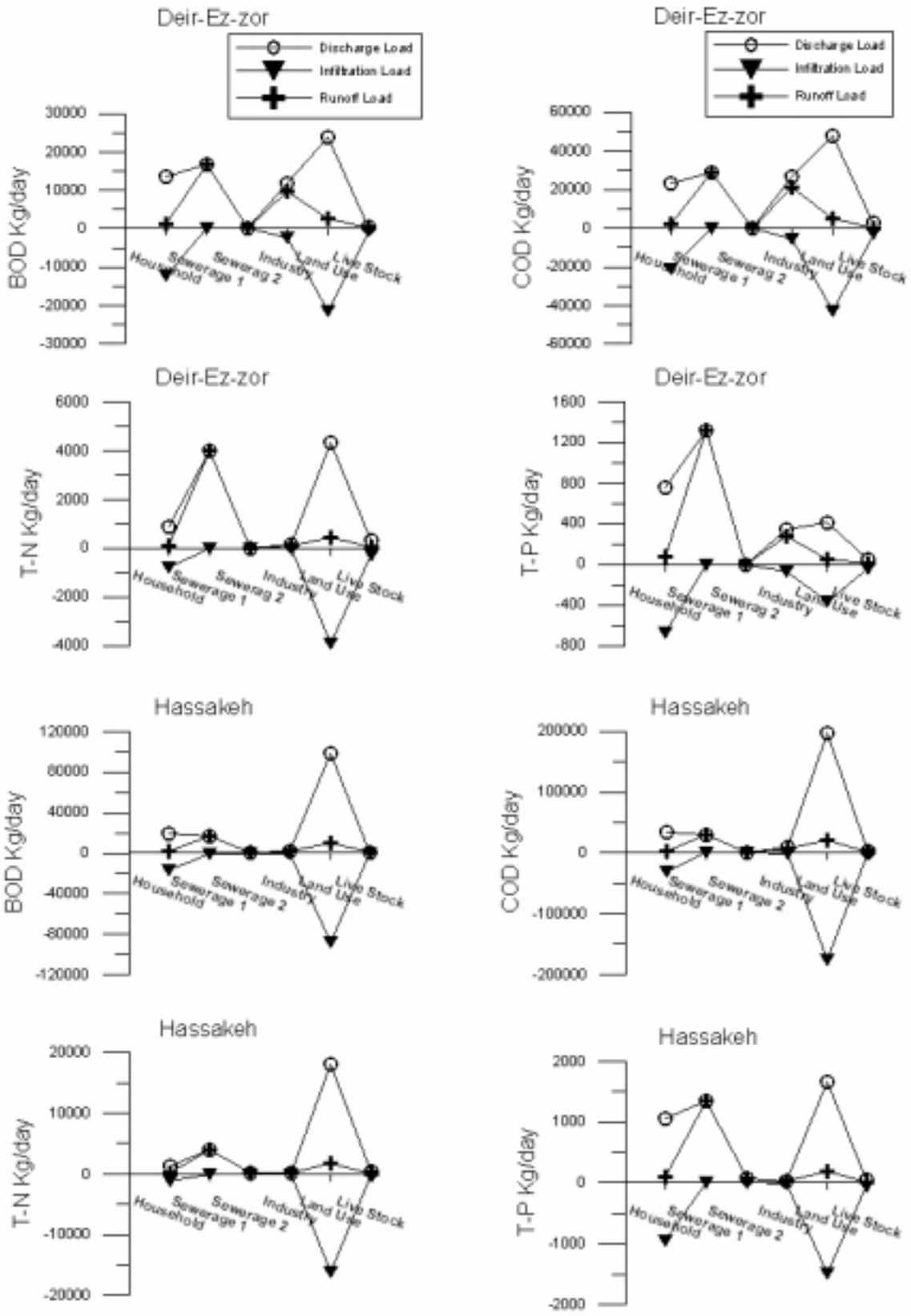

Figure A8.1.1 (4) Present Discharge Load, Runoff Load and Infiltration Load in Govenorates

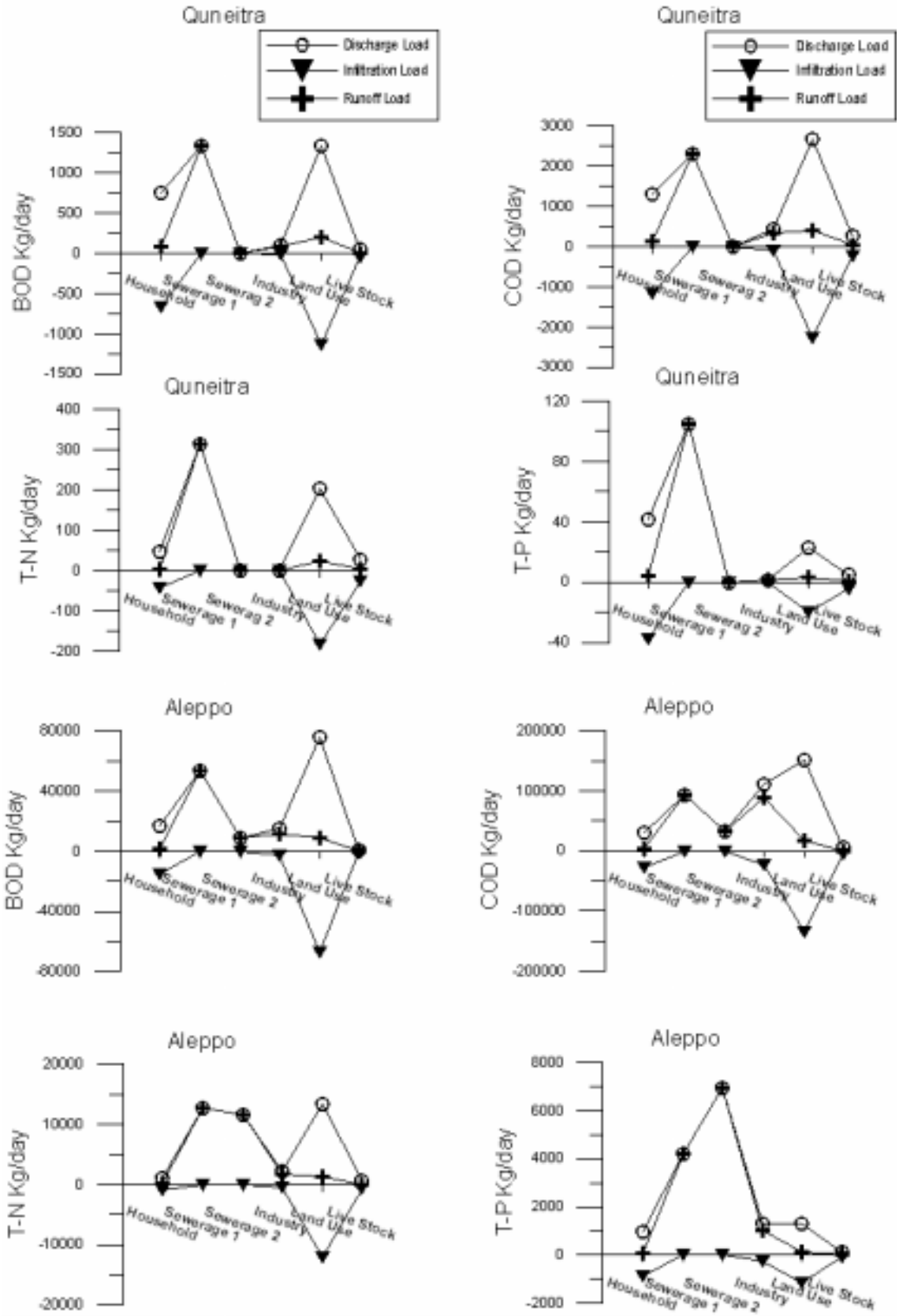

Figure A8.1.1 (5) Present Discharge Load, Runoff Load and Infiltration Load in

Appendix 8.2 Water Quality Analysis Survey for Industrial Wastewater

The water quality analysis survey for industrial wastewater is planned to obtain reference data for characteristics of industrial wastewater and consideration of treatment process. The contents of water quality survey for industrial wastewater and results of survey are as follows.

8.2.1 Contents of survey

The survey consists of water quality analysis of industrial wastewater for characteristics of water quality and questionnaire survey about the outline of objective factories.

(A) Contents of survey and method

(1) Water quality analysis of industrial wastewater

Number of sample for the water quality analysis is shown as below. Details of number of sample and water quality item are shown in Table 8.2.1 and Table 8.2.2

Items	Objective number	
Total number of sample	61	samples
Number of analysis items	25	items
(Number of analysis items is determined according to the type of industry.)		
Number of samples by type of factory		
Olive Pressing Factory	8	samples
Food Factory	13	samples
Others	40	samples

(2) Questionnaire survey of factory

Items of the questionnaire survey are itemized as below:

- Basic information
- Production activity
- Water consumption and raw materials
- Information of wastewater
- Wastewater treatment and requirement of facilities

The objective factories of questionnaire survey are same as the objective factories for water quality analysis.

(B) Selection of factory (Type of industry)

The objective factory in this survey is selected from the following points of view, and the final decision of objective factories followed suggestion from Ministry of Housing and Construction. Details of number of samples by type of industry are shown in Table1.3.

- The factory (or type of industry), which may have large influence on the water quality environment of water bodies and ground water.
- The factory (or type of industry), which may have influence on treatment process and the facilities of sewerage system.

Difference points with a proposal in the Inception report are described below.

- According to the information from Ministry of Local Administration and Environment, it becomes clear that the cement factory has no wastewater. Therefore, it is excluded from the candidate for the investigation of the objected type of industry.
- Operation of a sugar factory is seasonal operation for two or three months in from July to September. Refinery sugar factory in Homs Governarete had suspended operation for the maintenance. Therefore, it is excluded from the candidate for this investigation.
- According to the information of C/P, fertilizer product factory in Syria is only one. However, the factory has some product lines, and sampling points are selected at each wastewater pipes.
- As other type of industry, electroplating, Painting, pharmaceutical, aluminum, battery and detergent factory are selected for the objective type of industry.

The objective factories are located in 10 Governaretes (Damascus, Rural Damascus, Dar'aa, Tartous, Lattakia, Deir-Ez-zor, Hassakeh, Raqqa, Sweida, Homs, Aleppo), and nearly half of samples are collected in Rural Damascus Governarete.

Table A8.2.1 Number of Samples by Type of Industry

Type of Industry	No. of Samples
Olive Pressing Factory	8
Canning Factory for agricultural products	2
Paper Factory	3
Tannery Factory	6
Food Factory	11
Textile Factory	3
Painting Factory	3
Electroplating Factory	3
Oil Refinery Factory	3
Pharmaceutical Factory	3
Aluminum Factory	4
Battery Factory	1
Fertilizer &Agricultural Chemicals Factory	7
Soap / Detergent Factory	4
Total	61

(C) Method of water analysis

The methods for sampling and analysis to be employed shall conform to the accepted procedure Syria standards for water quality analysis. The method of water analysis is shown in Table 8.2.3.

8.2.2 Results of survey

The sampling of wastewater in the objective factory is carried out from January to February 2007, and after sampling, the analysis of water quality is conducted at the three analysis

laboratories continuously. At the same instant, the questionnaire survey is carried out. The results of water quality analysis and the results of questionnaire survey are shown in Table 8.2.4 to Table 8.2.20, respectively.

8.2.3 Findings

Based on the results of water quality analysis and questionnaire survey, the characteristics of wastewater are summarized in Chapter 8.5 “Recommendation on Other Countermeasures”.

Table A8.2.2 Water Quality Analysis Item

Analysis Item	Olive oil & Canning	Food	Paper	Tannery, Textile, Electroplating, Fertilizer, Oil Refinery, Aluminum, Painting, Pharmaceutical, Pesticide, Detergent
Number of Sample (Total=61 samples)	10	11	3	37
Temperature	○	○	○	○
pH	○	○	○	○
Precipitable Soil Materials	○	○	○	○
Suspended solids	○	○	○	○
Sulfide	○	○	○	○
Sulfate	○	○	○	○
Ammonia /Ammonium	○	○	○	○
Phosphate	○	○	○	○
Oils, grease	○	○	○	○
Boron			○	○
Cadmium			○	○
Chromium			○	○
Copper			○	○
Lead			○	○
Mercury			○	○
Nickel			○	○
Zinc			○	○
Cyanide			○	○
Arsenic			○	○
BOD	○	○	○	○
COD	○	○	○	○
TDS	○	○	○	○
Chloride	○	○	○	○
Fluoride			○	○
Pesticides	○			

Table A8.2.3 Method of Water Quality Analysis

Analysis Item	Analysis Methods
Temperature	Standard method
Hp	Standard method
Precipitable Soil Materials	Standard method
Suspended Solids	Standard method
Sulfide	Spectrophotometer
Sulfate	Volumetric Titration
Ammonia /Ammonium	Spectrophotometer
Phosphate	Spectrophotometer
Oils	Standard Method
Boron	Ion chromatographic
Cadmium	Atomic Absorption Spectrophotometry
Chromium	Atomic Absorption Spectrophotometry
Copper	Ion chromatographic
Lead	Atomic Absorption Spectrophotometry
Mercury	Atomic Absorption Spectrophotometry
Nickel	Atomic Absorption Spectrophotometry
Zinc	Atomic Absorption Spectrophotometry
Cyanide	Spectrophotometer
Arsenic	Atomic Absorption Spect. Hydride Generation
BOD	Standard Method Manometer
COD	Standard Method
TDS	Conductivity
Chloride	Volumetric Titration
Fluoride	IC, Ion Selective Elect.
Pesticides	Standard method

Table A8.2.4 Results of water quality analysis (1)

Parameter			Standard [1]	Factory Type: Oil Pressing							
				Oil - 1	Oil - 2	Oil - 3	Oil - 4	Oil - 5	Oil - 6	Oil - 7	Oil - 8
1	Temperature	c°	2)	16	18	17	18	11	12	17	17
2	pH	-	6 - 9	6.3	4.7	4.7	4.4	6.4	4.6	5.2	5.6
3	Percipit- S	mg/l	-	147	426	1,076	2,500	819	1,370	1,370	120
4	SS	mg/l	30	1,780	1,500	2,620	5,970	2,100	1,800	2,100	1,080
5	S	mg/l	1	5.0	8.0	10	10	4.5	10	18	6.0
6	SO_4	mg/l	1,000 [3]	2,100	600	2,600	750	530	2,500	650	220
7	NH_4-N	mg/l	5	40.0	120	1,750	2,250	140	600	1,200	200
8	PO_4	mg/l	15	25.0	200	1,500	2,000	25.0	500	1,400	23.0
9	Oil	mg/l	10	0.1	ND	ND	0.8	ND	0.6	0.8	0.1
10	B	mg/l	1.0 [3]								
11	Cd	mg/l	0.05								
12	Cr	mg/l	0.5								
13	Cu	mg/l	1								
14	Pb	mg/l	0.2								
15	Hg	mg/l	0.005								
16	Ni	mg/l	0.3								
17	Zn	mg/l	2								
18	CN	mg/l	0.1								
19	As	mg/l	0.1								
20	BOD	mg/l	40	420	2,800	9,600	9,900	920	5,700	8,000	1,400
21	COD	mg/l	150	2,400	28,000	32,000	51,200	2,400	32,000	159,000	2,400
22	TDS	mg/l	1,200	384	1,630	7,080	5,720	705	3,650	13,000	2,100
23	Cl^-	mg/l	1	50	200	1,100	900	60	1,000	700	600
24	F	mg/l	1								
25	Pesticide	mg/l	0.005 [3]	ND	ND	ND	ND	ND	ND	ND	ND

1) The Maximum Limits of Industrial Polluters Permitted to be discharged to the External Environment (type of receivers is river).
2) Five-degree more than receiving water bodies.
3) The Maximum Limits of Industrial Polluters Permitted to be discharged to the Sewer Networks.

Table A8.2.5 Results of water quality analysis (2)

Parameter			Standard [1]	Canning factory		Paper factory		
				Can-1	Can-2	Paper-1	Paper-2	Paper-3
				Al Reef Company	Bassam for Tomato	Abdlatif badinkji factory	DEZ Paper Factory	Alnuameh Company for Carton
1	Temperature	c°	35	11	16	21	17	17
2	pH	-	6.5-9.5	5.9	7.8	6.4	8.6	8.1
3	Percipit- S	mg/l	10	20.0	ND	120	54.0	ND
4	SS	mg/l	500	129	ND	4,090	564	ND
5	S	mg/l	2	0.2	ND	1.1	1.1	0.1
6	SO_4	mg/l	100	150	65.0	1,630	120	210
7	NH_4-N	mg/l	100	3.0	0.4	4.0	2.0	1.3
8	PO_4	mg/l	20	1.5	0.1	0.5	50.0	2.2
9	Oil	mg/l	10	ND	ND	ND	ND	ND
10	B	mg/l	1			0.600	1.20	ND
11	Cd	mg/l	0.1			0.077	0.001	0.079
12	Cr	mg/l	0.1			0.022	0.090	0.589
13	Cu	mg/l	0.1			0.061	0.002	0.044
14	Pb	mg/l	0.1			0.070	0.004	0.090
15	Hg	mg/l	0.01			0.003	0.015	0.008
16	Ni	mg/l	2			0.010	0.008	0.122
17	Zn	mg/l	4			0.028	0.070	0.024
18	CN	mg/l	0.5			ND	0.010	ND
19	As	mg/l	0.1			0.003	ND	0.028
20	BOD	mg/l	800	20	30	2,900	50	8
21	COD	mg/l	1,600	1,770	80	4,700	250	16
22	TDS	mg/l	2,000	840	470	2,600	344	510
23	Cl^-	mg/l	600	50	120	530	710	142
24	F	mg/l	8			0.3	ND	ND
25	Pesticide	mg/l	0.005	ND	ND	ND		

1) The Maximum Limits of Industrial Polluters Permitted to be discharged to the External Environment (type of receivers is river).
2) Five-degree more than receiving water bodies.
3) The Maximum Limits of Industrial Polluters Permitted to be discharged to the Sewer Networks.

Table A8.2.6 Results of water quality analysis (3)

Parameter			Standard [1]	Other factory					
				Tannery-1	Tannery-2	Tannery-3	Tannery-4	Tannery-5	Tannery-6
				General Tannery Company outlet	General Tannery Company outlet-Crom	General Tannery Company outlet-Coloring	Dnno Tannery factory	Assi Tanerry	Twailaty Tanerry
1	Temperature	c°	35	11	17	15	19	12	13
2	pH	-	6.5-9.5	7.3	4.5	6.8	6.9	7.2	7.4
3	Percipit- S	mg/l	10	11.0	180	36.0	1.6	57.0	45.0
4	SS	mg/l	500	160	1,990	754	881	515	614
5	S	mg/l	2	0.1	0.1	0.5	3.5	4.8	5.5
6	SO_4	mg/l	100	1,800	1,800	2,100	3,000	850	1,750
7	NH_4-N	mg/l	100	5.0	31.0	83.0	90.0	52.0	600
8	PO_4	mg/l	20	100	7.5	1.0	6.0	60.0	1.2
9	Oil	mg/l	10	1.0	1.0	ND	1.0	1.0	1.0
10	B	mg/l	1	1.40	4.60	3.50	2.70	1.50	0.700
11	Cd	mg/l	0.1	ND	0.008	ND	ND	0.005	0.006
12	Cr	mg/l	0.1	5.75	30.0	18.0	1.25	0.043	12.0
13	Cu	mg/l	0.1	0.002	2.30	0.000	0.008	0.013	0.011
14	Pb	mg/l	0.1	0.110	1.25	0.001	0.360	0.110	0.065
15	Hg	mg/l	0.01	0.002	ND	0.048	0.007	0.750	ND
16	Ni	mg/l	2	0.040	0.660	0.020	0.110	0.260	0.050
17	Zn	mg/l	4	0.005	1.70	0.067	0.180	0.340	0.030
18	CN	mg/l	0.5	ND	ND	ND	ND	ND	ND
19	As	mg/l	0.1	0.001	0.075	0.075	0.006	0.011	0.075
20	BOD	mg/l	800	120	160	450	1,100	960	500
21	COD	mg/l	1,600	2,880	8,060	5,760	10,900	146	2,940
22	TDS	mg/l	2,000	1,780	33,500	8,460	18,100	13,900	2,690
23	Cl^-	mg/l	600	260	19,500	1,400	6,750	3,200	6,800
24	F	mg/l	8	0.6	ND	1.5	ND	ND	ND
25	Pesticide	mg/l	0.005						

1) The Maximum Limits of Industrial Polluters Permitted to be discharged to the External Environment (type of receivers is river).
2) Five-degree more than receiving water bodies.
3) The Maximum Limits of Industrial Polluters Permitted to be discharged to the Sewer Networks.

Table A8.2.7 Results of water quality analysis (4)

Parameter			Standard [1]	Food factory						
				Meat-1	Meat-2	Meat-3	Meat-4	Cheese-1	Cheese-2	Cheese-3
				Somar Canning Factory for Meat	General Co. for meat	G. Company for meat (Al-Hassakeh)	G. Company for meat (Al-Raqah)	Al Shark Cheese Company	Syrian-Saudi Arabia company	Flour Milk (Gohta)
1	Temperature	c°	35	13	11	17	17	17	19	31
2	pH	-	6.5-9.5	9.7	7.6	7.7	8.1	7.1	7.5	6.2
3	Percipit- S	mg/l	10	20.0	16.0	60.0	671	6.0	20.0	52.0
4	SS	mg/l	500	445	519	416	760	146	38.4	465
5	S	mg/l	2	1.6	3.0	3.2	0.2	0.1	1.1	1.2
6	SO_4	mg/l	100	250	800	600	33.3	120	8.0	360
7	NH_4-N	mg/l	100	15.0	60.0	15.0	80.0	2.5	10.0	20.0
8	PO_4	mg/l	20	0.5	25.0	31.0	120	2.5	0.5	20.0
9	Oil	mg/l	10	ND	0.8	0.6	ND	49	ND	0.3
10	B	mg/l	1							
11	Cd	mg/l	0.1							
12	Cr	mg/l	0.1							
13	Cu	mg/l	0.1							
14	Pb	mg/l	0.1							
15	Hg	mg/l	0.01							
16	Ni	mg/l	2							
17	Zn	mg/l	4							
18	CN	mg/l	0.5							
19	As	mg/l	0.1							
20	BOD	mg/l	800	2,000	1,600	520	260	400	140	1,600
21	COD	mg/l	1,600	9,600	44,160	1,200	560	1,920	576	2,688
22	TDS	mg/l	2,000	980	628	860	902	1,380	1,760	450
23	Cl^-	mg/l	600	250	175	135	160	250	20.0	80.0
24	F	mg/l	8							
25	Pesticide	mg/l	0.005							

1) The Maximum Limits of Industrial Polluters Permitted to be discharged to the External Environment (type of receivers is river).
2) Five-degree more than receiving water bodies.
3) The Maximum Limits of Industrial Polluters Permitted to be discharged to the Sewer Networks.

Table A8.2.8 Results of water quality analysis (5)

Parameter			Standard [1]	Food factory			
				Yeast-1	Yeast-2	Beer-1	Bee-2
				Damascus Yeast Factory-B	Damascus Yeast Factory-A	Barada Company For Beer	Arab company for Alcohol Production
1	Temperature	c°	35	27	22	19	41
2	pH	-	6.5-9.5	6.5	7.8	9.5	8.6
3	Percipit- S	mg/l	10	20.0	48.0	29.0	0.1
4	SS	mg/l	500	660	1,020	312	20.0
5	S	mg/l	2	2.5	2.3	1.8	ND
6	SO_4	mg/l	100	600	400	60.0	ND
7	NH_4-N	mg/l	100	75.0	300	17.5	ND
8	PO_4	mg/l	20	5.0	5.0	20.0	ND
9	Oil	mg/l	10	0.3	0.3	0.8	ND
10	B	mg/l	1				
11	Cd	mg/l	0.1				
12	Cr	mg/l	0.1				
13	Cu	mg/l	0.1				
14	Pb	mg/l	0.1				
15	Hg	mg/l	0.01				
16	Ni	mg/l	2				
17	Zn	mg/l	4				
18	CN	mg/l	0.5				
19	As	mg/l	0.1				
20	BOD	mg/l	800	540	4,600	13,400	22
21	COD	mg/l	1,600	9,600	5,780	7,448	40
22	TDS	mg/l	2,000	10,400	6,460	828	212
23	Cl^-	mg/l	600	2,150	1,100	50.0	28.4
24	F	mg/l	8				
25	Pesticide	mg/l	0.005				

1) The Maximum Limits of Industrial Polluters Permitted to be discharged to the External Environment (type of receivers is river).
2) Five-degree more than receiving water bodies.
3) The Maximum Limits of Industrial Polluters Permitted to be discharged to the Sewer Networks.

Table A8.2.9 Results of water quality analysis (6)

Parameter			Standard [1]	Textile factory			Painting factory		
				Textile-1	Textile-2	Textile-3	Paint-1	Paint-2	Paint-3
				General Company for Carpet production	Arabian United Co. for Industry DUBS	Modern Industries Corporation	Ahmed Burguly	Jobico	Alazmeh for Panting
1	Temperature	c°	35	18	14	14	20	12	11
2	pH	-	6.5-9.5	7.0	8.6	4.4	6.9	6.6	7.7
3	Percipit- S	mg/l	10	100	10.0	54.0	30.0	2.0	41.0
4	SS	mg/l	500	4,300	806	258	533	76.0	201
5	S	mg/l	2	1.6	0.8	ND	0.3	0.2	0.8
6	SO_4	mg/l	100	300	350	160	70.0	5.0	360
7	NH_4-N	mg/l	100	125	15.0	7.5	60.0	25.0	3.8
8	PO_4	mg/l	20	2.5	17.5	0.2	87.5	25.0	20.0
9	Oil	mg/l	10	ND	ND	0.5	145	42.0	65
10	B	mg/l	1	2.10	2.50	0.200	0.300	ND	0.600
11	Cd	mg/l	0.1	ND	ND	ND	0.001	ND	0.006
12	Cr	mg/l	0.1	0.009	0.012	ND	0.580	0.001	ND
13	Cu	mg/l	0.1	0.007	0.110	0.005	0.180	0.006	0.013
14	Pb	mg/l	0.1	0.001	0.007	0.005	0.020	0.080	0.005
15	Hg	mg/l	0.01	ND	0.104	0.003	ND	ND	ND
16	Ni	mg/l	2	0.001	0.005	0.060	0.010	0.110	0.001
17	Zn	mg/l	4	0.300	0.150	0.110	0.500	0.200	0.066
18	CN	mg/l	0.5	0.010	ND	0.010	ND	ND	0.010
19	As	mg/l	0.1	ND	ND	ND	ND	ND	ND
20	BOD	mg/l	800	340	460	40	500	350	70
21	COD	mg/l	1,600	7,300	1,920	1,570	5,760	3,460	1,110
22	TDS	mg/l	2,000	1,488	2,145	4,381	775	390	139
23	Cl^-	mg/l	600	750	500	1,250	150	100	340
24	F	mg/l	8	0.1	0.9	1.5	ND	ND	ND
25	Pesticide	mg/l	0.005						

1) The Maximum Limits of Industrial Polluters Permitted to be discharged to the External Environment (type of receivers is river).
2) Five-degree more than receiving water bodies.
3) The Maximum Limits of Industrial Polluters Permitted to be discharged to the Sewer Networks.

Table A8.2.10 Results of water quality analysis (7)

Parameter			Standard [1]	Electroplating			Oil refinery factory		
				Plating-1	Plating-2	Plating-3	Oil-1	Oil-2	Oil-3
				Dia Kuzbari	Mohamed Hawasli	Tecani for Elect	Banias Oil Refinery	ALAQSA for OIL	Hager For Oil
1	Temperature	c°	35	14	12	16	18	11	14
2	pH	-	6.5-9.5	6.8	6.3	7.3	7.5	7.1	2.5
3	Percipit- S	mg/l	10	10.0	12.0	2.0	8.0	16.0	90.0
4	SS	mg/l	500	129	31.0	104	53.0	423	1,110
5	S	mg/l	2	1.4	ND	1.8	0.1	0.7	1.8
6	SO_4	mg/l	100	800	125	130	94.0	120	350
7	NH_4-N	mg/l	100	1.0	70.0	2.5	8.0	25.0	125
8	PO_4	mg/l	20	4.0	5.0	0.2	ND	10.0	200
9	Oil	mg/l	10	ND	ND	ND	ND	0.8	38
10	B	mg/l	1	0.700	8.30	25.0	1.000	ND	2.90
11	Cd	mg/l	0.1	ND	ND	0.008	0.001	ND	0.001
12	Cr	mg/l	0.1	0.020	7.40	0.187	< 0.15	0.080	0.718
13	Cu	mg/l	0.1	0.300	6.00	0.300	<0.08	ND	0.010
14	Pb	mg/l	0.1	0.031	0.010	0.250	< 0.5	0.008	0.810
15	Hg	mg/l	0.01	ND	ND	ND	ND	ND	ND
16	Ni	mg/l	2	3.77	36.6	253	0.370	0.110	1.33
17	Zn	mg/l	4	0.800	83.0	0.170	< 0.02	0.300	78.0
18	CN	mg/l	0.5	0.010	0.010	ND	ND	0.010	ND
19	As	mg/l	0.1	ND	ND	ND	4.50	0.003	0.006
20	BOD	mg/l	800	130	40	200	130	1,200	400
21	COD	mg/l	1,600	8,640	4,700	784	720	18,100	11,400
22	TDS	mg/l	2,000	887	-	1,103	1,960	5,484	20,500
23	Cl^-	mg/l	600	100	540	200	155	8,000	750
24	F	mg/l	8	0.7	3.2	0.7	1.1	ND	ND
25	Pesticide	mg/l	0.005						

1) The Maximum Limits of Industrial Polluters Permitted to be discharged to the External Environment (type of receivers is river).
2) Five-degree more than receiving water bodies.
3) The Maximum Limits of Industrial Polluters Permitted to be discharged to the Sewer Networks.

Table A8.2.11 Results of water quality analysis (8)

Parameter			Standard [1]	Pharmaceutical			Aluminum factory				Battery
				Phama-1	Phama-2	Phama-3	Alum-1	Alum-2	Alum-3	Alum-4	Battery
				Albahri Company	Tamico	Domina Company	Madar for Aluminum	Amoura for Aluminum (B.T)	Amoura for Aluminum (A.T)	General Company for Aluminum	Damascus Factory for Battery
1	Temperature	c°	35	24	19	18	22	17	17	15	18
2	pH	-	6.5-9.5	7.3	6.4	6.9	6.8	8.0	7.2	8.7	6.2
3	Percipit- S	mg/l	10	38.0	17.0	0.1	10.0	750	5.0	50.0	10.0
4	SS	mg/l	500	389	39.2	14.0	352	10,800	99.0	320	146
5	S	mg/l	2	0.5	0.6	0.1	1.2	ND	0.1	0.8	1.2
6	SO_4	mg/l	100	11.0	69.0	150	18,000	9,500	150	700	160
7	NH_4-N	mg/l	100	5.0	6.0	2.5	50.0	120	60.0	0.6	27.0
8	PO_4	mg/l	20	6.0	1.3	0.2	0.2	0.1	5.2	ND	0.5
9	Oil	mg/l	10	0.5	39	ND	54.0	ND	ND	ND	64
10	B	mg/l	1	2.60	0.800	0.300	0.300	11.7	1.00	1.20	1.80
11	Cd	mg/l	0.1	0.001	0.007	0.002	0.001	ND	ND	0.004	ND
12	Cr	mg/l	0.1	0.050	ND	ND	0.580	0.040	0.003	.<0.15	0.070
13	Cu	mg/l	0.1	0.001	0.004	0.001	0.010	0.200	0.003	<0.08	0.008
14	Pb	mg/l	0.1	0.006	0.003	0.002	0.060	0.016	0.005	< 0.5	0.009
15	Hg	mg/l	0.01	ND	ND	ND	0.008	ND	ND	0.070	ND
16	Ni	mg/l	2	0.190	0.004	0.050	21.0	0.710	0.710	0.002	0.014
17	Zn	mg/l	4	0.510	0.044	0.090	0.160	0.410	0.012	<0.02	92.0
18	CN	mg/l	0.5	0.010	ND	ND	ND	ND	ND	ND	0.010
19	As	mg/l	0.1	ND	ND	ND	ND	ND	ND	2.00	ND
20	BOD	mg/l	800	140	380	60	100	40	30	40	40
21	COD	mg/l	1,600	1,680	6,470	357	768	98	196	150	2,740
22	TDS	mg/l	2,000	659	1,010	729	5,250	8,100	1,860	905	1,550
23	Cl^-	mg/l	600	90	200	100	75	95	120	30	850
24	F	mg/l	8	ND	ND	ND	ND	11.7	1.0	0.5	0.6
25	Pesticide	mg/l	0.005								

1) The Maximum Limits of Industrial Polluters Permitted to be discharged to the External Environment (type of receivers is river).
2) Five-degree more than receiving water bodies.
3) The Maximum Limits of Industrial Polluters Permitted to be discharged to the Sewer Networks.

Table A8.2.12 Results of water quality analysis (9)

Parameter			Standard [1]	Fertilizer &Agricultural Chemicals factory						
				Chem-1	Chem-2	Fertili-1	Fertili-2	Fertili-3	Fertili-4	Fertili-5
				Sabag for chemicals	Sabag Company for Pesticide	Azot Fertilizer Factory (Katinah)	Azot Fertilizer Factory (Katinah)	Azot Fertilizer Factory (Assi River)	Azot Fertilizer Factory (Assi River)	Azot Fertilizer Factory (Assi River)
1	Temperature	c°	35	12	14	17	17	32	24	17
2	pH	-	6.5-9.5	7.0	7.5	7.9	7.3	6.2	8.8	6.2
3	Percipit- S	mg/l	10	20.0	12.0	2.0	8.0	15.0	12.0	8.0
4	SS	mg/l	500	139	30.0	19.0	67.0	118	74.0	100
5	S	mg/l	2	0.8	0.3	0.3	0.8	0.4	0.1	0.2
6	SO_4	mg/l	100	200	150	48.0	95.0	425	125	220
7	NH_4-N	mg/l	100	75.0	1.5	0.7	2.6	70.8	94.3	25.5
8	PO_4	mg/l	20	19.5	0.2	0.5	10.4	1.3	0.8	16.0
9	Oil	mg/l	10	ND	0.8	ND	ND	0.6	0.2	0.3
10	B	mg/l	1	1.70	ND	1.20	1.80	1.20	0.800	0.900
11	Cd	mg/l	0.1	0.010	0.003	0.025	0.233	0.019	0.016	0.025
12	Cr	mg/l	0.1	0.030	ND	0.003	0.040	0.014	0.054	0.066
13	Cu	mg/l	0.1	0.005	0.001	ND	ND	ND	ND	ND
14	Pb	mg/l	0.1	ND	ND	ND	ND	ND	ND	ND
15	Hg	mg/l	0.01	ND	ND	0.010	0.010	0.002	0.020	0.006
16	Ni	mg/l	2	0.140	0.090	0.503	0.853	66.0	31.0	0.079
17	Zn	mg/l	4	0.900	0.001	0.062	0.021	99.0	182	0.091
18	CN	mg/l	0.5	ND	ND	0.100	0.800	0.500	0.200	0.300
19	As	mg/l	0.1	ND	ND	2.30	4.70	1.41	4.63	4.60
20	BOD	mg/l	800	500	40	8	9	35	30	12
21	COD	mg/l	1,600	2,880	1,180	16	16	80	64	24
22	TDS	mg/l	2,000	886	349	298	415	950	1,020	636
23	Cl^-	mg/l	600	200	50	50	45	85	250	45
24	F	mg/l	8	ND	ND	0.9	4.3	3.5	8.0	10.8
25	Pesticide	mg/l	0.005							

1) The Maximum Limits of Industrial Polluters Permitted to be discharged to the External Environment (type of receivers is river).
2) Five-degree more than receiving water bodies.
3) The Maximum Limits of Industrial Polluters Permitted to be discharged to the Sewer Networks.

Table A8.2.13 Results of water quality analysis (10)

Parameter			Standard [1]	Detergent			
				Deterg-1	Deterg-2	Deterg-3	Deterg-4
				Madar Company for Detergent	Al- Hayatt	General Co. For Chemical Detergents SAR	Hamdan and Ghaleb
1	Temperature	c°	35	34	14	11	12
2	pH	-	6.5-9.5	8.8	7.1	10.2	7.6
3	Percipit- S	mg/l	10	30.0	71.0	15.0	10.0
4	SS	mg/l	500	185	10.5	4,370	217
5	S	mg/l	2	0.6	0.3	2.3	0.1
6	SO_4	mg/l	100	650	500	500	25.0
7	NH_4-N	mg/l	100	15.0	4.0	2.5	1.7
8	PO_4	mg/l	20	400	0.1	200	0.2
9	Oil	mg/l	10	0.2	ND	0.1	ND
10	B	mg/l	1	9.10	0.500	0.900	0.600
11	Cd	mg/l	0.1	0.006	0.007	ND	0.003
12	Cr	mg/l	0.1	0.700	0.001	0.050	ND
13	Cu	mg/l	0.1	0.017	0.004	0.006	0.002
14	Pb	mg/l	0.1	0.002	0.001	0.001	ND
15	Hg	mg/l	0.01	0.019	ND	0.460	0.048
16	Ni	mg/l	2	0.110	0.070	0.100	0.004
17	Zn	mg/l	4	0.016	0.018	0.210	0.070
18	CN	mg/l	0.5	ND	ND	ND	ND
19	As	mg/l	0.1	ND	0.022	ND	0.024
20	BOD	mg/l	800	470	100	320	400
21	COD	mg/l	1,600	1,540	1,180	11,500	980
22	TDS	mg/l	2,000	2,890	2,540	1,800	2,690
23	Cl^-	mg/l	600	350	900	20	200
24	F	mg/l	8	1.5	0.5	1.3	ND
25	Pesticide	mg/l	0.005				

1) The Maximum Limits of Industrial Polluters Permitted to be discharged to the External Environment (type of receivers is river).
2) Five-degree more than receiving water bodies.
3) The Maximum Limits of Industrial Polluters Permitted to be discharged to the Sewer Networks.

Table A8.2.14 Results of questionnaire survey (1)

Serial Number	Category of industry	Name of Factory	Date of Questionnaire	Name of District
1	Textile	General Company for Carpet production	5/2/2007	Rural Damascus
2	Textile	Arabian United Co. for Industry DUBS	5/2/2007	Rural Damascus
3	Food	Somar Canning Factory for Meat	6/2/2007	Rural Damascus
4	Covering metals	Dia Kuzbari	6/2/2007	Rural Damascus
5	Chemical	Sabag for Chemicals	6/2/2007	Rural Damascus
6	Painting	Ahmad Burguli	7/2/2007	Rural Damascus
7	Aluminum	Madar For Aluminum	7/2/2007	Rural Damascus
8	Oil refinery	Hager for Oil	7/2/2007	Rural Damascus
9	Painting	Jobico	2/10/2007	Rural Damascus
10	Detergent	Madar for Detergent	2/8/2007	Rural Damascus
11	Food	AlShrk Cheese Company	2/8/2007	Rural Damascus
12	Food	General Co. for meat	2/11/2007	Damascus
13	Tannery	General Tannery Company	2/11/2007	Damascus
14	Tannery	Dnno Tannery Company	2/11/2007	Damascus
15	Food	Flour Milk (Gohta)	2/12/2007	Damascus
16	Pharmaceutical	Albahri Company	2/12/2007	Rural Damascus
17	Food	Al Reef Company	2/14/2007	Rural Damascus
18	Painting	Alazmeh for painting	2/14/2007	Damascus
19	Food	Syrian- Saudi Arabia company	2/20/2007	Damascus
20	Food	Flour Milk (Gohta)	2/15/2007	Damascus
21	Oil refinery	AlAQSA for oil	2/14/2007	Rural Damascus
22	Food	Brada company for Beer	2/18/2007	Rural Damascus
23	Dry Battery	Damascus Factory for Battery	2/18/2007	Rural Damascus
24	Pharmaceutical	Tamico	2/20/2007	Rural Damascus
25	detergents	General Co. For Chemical Detergents SAR	2/20/2007	Rural Damascus
26	Electroplating	Mohamed Hawasli	2/21/2007	Rural Damascus
27	Textile	Modern Industries Corporation	2/21/2007	Rural Damascus
28	Pesticide	Sabag for Pestiside	2/25/2007	Rural Damascus
29	Pharmaceutical	Domina company	2/26/2007	Rural Damascus
30	Aluminum	Amoura For Aluminum	2/26/2007	Rural Damascus
31	Detergent	Al-Hayatt	2/26/2007	Rural Damascus
32	Tannery	Twailaty Tanerry	2/27/2007	Rural Damascus
33	Tannery	Assi Tanerry	2/27/2007	Rural Damascus
34	Electroplating	Tecani for Elect	2/27/2007	Rural Damascus
35	Detergent	Hamdan and Ghaleb	2/27/2007	Rural Damascus
36	Paper	Abdlatif badinkji factory	2/12/2007	Aleppo
37	Oil Pressing	Bsmakah	2/18/2007	Tartous
38	Paper	Alnuameh Company for Carton	2/15/2007	Dar'aa
39	Food	Arab Company for Alcohol Production	2/19/2007	Sweida
40	Oil Pressing	Ain Kbira	2/20/2007	Tartous
41	Oil Pressing	Almaruf	3/1/2007	Tartous
42	Oil Pressing	Alnukhbeh	2/20/2007	Tartous
43	Oil refinery	Banias Oil Refinery	2/22/2007	Tartous
44	Food (Canning)	Factory for Tomato	-	Dar'aa
45	Food	General Company for meat	2/26/2007	Hassakeh
46	Fertilizer	Azot Fertilizer Factory	2/18/2007	Homs
47	Paper	DEZ Paper Factory	2/20/2007	Deir-ez-Zor
48	Food	General Company for meat	2/21/2007	Raqqa
49	Oil Pressing	Abou Hamzeh	-	Dar'aa
50	Oil Pressing	Gazi	-	Tartous
51	Aluminum	General company for aluminum	2/21/2007	Lattakia
52	Oil Pressing	Ramadan	2/15/2007	Rural Damascus

Table A8.2.15 Results of questionnaire survey (2)

Serial Number	Production Items	Positional information	
		Latitude	Longitude
1	Carpets	33 26 39.6	36 16 17.5
2	Raw cloths	33 26 16.1	36 16 05.4
3	Canned poultry meat, canned mixed meat, meat	33 26 56.2	36 16 29.3
4	Chrome covering, Nickel covering, Aluminum oxidation	33 27 05.9	36 16 32.2
5	Shampoo &detergents, variegated for hair, purifiers	-	-
6	Oily painting, water- thresh	33 25 47.1	36 15 32.7
7	Aluminum section	33 23 55.3	36 14 41.0
8	Sebaceous acids, Glycerin	33 19 11.4	36 15 36.5
9	Alkidat, poly fineel asitat	33 20 16.5	36 15 15.1
10	Detergent, liquid washed, shampoo	33 19 11.2	36 15 32.0
11	Cashkawan, cooked cheese	33 26 38.3	36 16 55.5
12	Sheep meat, cow meat	33 30 48.4	36 19 56.8
13	Leather sheep for clothes	33 30 47.6	36 19 37.4
14	Cows hide &sheep hide	33 30 42.9	36 20 03.6
15	Bread yeast	33 26 45.0	36 24 13.5
16	Medicine capsule, dry syrup, liquid syrup	33 26 29.4	36 30 10.2
17	Frying potato, katchab, alimentary appetizer	-	-
18	Paint	33 35 02.7	36 28 13.1
19	Milk	33 32 19.0	36 28 30.3
20	Sterile milk, sour cob, yogurt, cheese, butter, obesity	-	-
21	Olive oil, olive, alimentary appetizer	33 29 52.9	36 21 05.8
22	Bottle beer, Tank beer	33 33 16.6	36 13 09.4
23	Dry batteries	33 24 08.8	36 14 17.7
24	All kind of pharmacist preparation, children foodstuff	33 29 44.6	36 22 20.4
25	All kinds of detergents (powder& liquid)	33 35 34.6	36 31 01.4
26	Metal coating	33 30 50.5	36 22 44.6
27	Wool fabric	33 30 04.2	36 20 27.6
28	Insecticide, parasiticide, herbicide	-	-
29	Medical skin creams, syrup, capsules	33 28 11.9	36 24 46.1
30	Aluminum section	33 30 19.7	36 31 19.4
31	Soap, botanical oils	33 32 12.9	36 20 19.0
32	Leather sheep	-	-
33	Leather cow	-	-
34	Iron painting & copper painting, thermal spray	33 32 04.2	36 19 46.4
35	Soap	-	-
36	Paper for board boxes & fiber	-	-
37	Olive oil, solid rest	-	-
38	Eggs boards	-	-
39	Arrack, Brandy, wine	-	-
40	Olive oil, solid rest	-	-
41	Olive oil, olive	-	-
42	Olive oil, solid rest	-	-
43	Gas oil, benzene, fuel, kerosene for planes, gas	-	-
44	Cocktail & ketchup	33 35 41.1	36 27 44.3
45	Meat	-	-
46	Fertilizer	-	-
47	Cement paper, gray board	-	-
48	Meat	33 30 48.4	36 19 56.8
49	Olive oil	-	-
50	Olive oil, solid rest	-	-
51	Aluminum section	-	-
52	Olive oil, solid rest	-	-

Table A8.2.16 Results of questionnaire survey (3)

Serial Number	Lot Area (m^2)	Building Area (m^2)	Number of Worker	Operation hour
1	1,800	1,200	300	7:00 - 23:00
2	-	-	900	7:00 - 7:00
3	-	400	88	7:00 - 15:00
4	3,000	1,500	30	8:00 - 17:00
5		2,515	120	7:30 - 17:30
6	14,000	1,500	16	7:30 - 15:30
7	85,000	20,000	500	7:30 - 7:30
8	29,500	1,500	30	7:30 - 7:00
9	50,000	10,000	50	-
10	40,000	20,000	500	8:00 - 16:00
11	1,450	150	13	8:00 - 16:00
12	30,000	10,000	170	19:00 - 3:00
13	38,000	12,000	180	7:30 - 15:00
14	200	-	9	8:00 - 16:00
15	40,000	-	150	24 hours operation
16	10,000	7,000	150	8:00 - 16:00
17	20,000	7,000	20 (10-20)	8:00 - 16:00
18	28,000	14,000	60 - 80	8:00 - 16:00
19	12,000	2,000	101	7:00 - 7:00
20	32,000	22,000	200 (10)	7:00 - 15:00
21	5,000	500	4 (30)	8:00 - 16:00
22	24,000	10,000	131	8:00 - 15:00
23	1,500	1,200	30 (15)	7:30 - 15:00
24	10,000	4,000	1200 (20)	7:00 - 21:30
25	300,000	100,000	400	24 hours operation
26	225	225	20	8:00 - 16:00
27	-	-	538	7:00 - 15:00
28	25,000	4,500	15	8:00 - 16:00
29	35,000	3,500	80	7:30 - 15:00
30	42,270	11,500	1,000	24 hours operation
31	12,000	5,000	30	8:00 - 16:00
32	-	3,600	4	9:00 - 21:00
33	-	700	3 (1-2)	10:00 - 17:00
34	-	170	5	8:00 - 17:00
35	-	2,500	37	8:00 - 16:00
36	23,000	4,000	100	24 hours operation
37	1,500	500	6	Seasonal operation
38	4,000	500	2	7:00 - 15:00
39	20,000	6,000	180 (14)	7:00 - 15:00
40	1,300	200	-	Seasonal operation
41	2,000	230	8	Seasonal operation
42	1,600	400	10	Seasonal operation
43	1,000,000	-	3000 (300)	24 hours operation
44	6,000	1,000	5 (6)	9:00 - 14:00
45	20,000	500	8	0:00 - 7:00
46	1,970,584	6,799	3,373 (150)	24 hours operation
47	600,000	100,000	560 (100)	7:00 - 15:00
48	500	-	10	16:30 - 17:30
49	10,000	750	1 (15)	Seasonal operation
50	5,000	250	15	Seasonal operation
51	200,000	5,000	205	8:00 - 16:00
52	700	230	7	8:00 - 8:00

Table A8.2.17 Results of questionnaire survey (4)

Serial Number	Water Consumption							
	Total	Raw material	Washing	Cooling	Boiler	Recycle	Others	Domestic water
1	14000*	-	-	-	7,000	-	1,000	1,850
2	300,000	284,000					6,000	10,000
3	5	5						
4	10 - 15*	-	-	-	-	-	-	-
5	138	65	10	3		-	60	
6	6 - 10*	0.8	-	-	-	-	-	
7	250	240						10
8	120*	50	-	-	-	3	-	
9	7	4	0.9	0.4	0.2	0.2	-	0.8
10	230	200						30
11	5*	-	41	-	-	-	-	1
12	*400	-	-	-	-	-	-	-
13	1,000*	-	-	-	-	-	-	12
14	40*	-	-	-	-	-	-	-
15	900*	-	-	150	-	-	-	-
16	416*	-	-	-	-	-	-	-
17	25 - 30*	-	-	-	-	-	-	-
18	30*	-	-	-	-	-	-	-
19	150*	-	150	20	-	-	-	-
20	200*	-	-	-	-	-	-	-
21	45*	-	-	-	-	-	-	1 - 2
22	20*	-	-	-	-	-	-	-
23	2*	-	-	-	-	-	-	-
24	40*	-	-	-	-	-	-	-
25	85000*	-	-	-	-	-	-	-
26	7*	-	-	-	-	-	-	-
27	100,001	-	100,000	-	-	-	-	0.8
28	3*	-	-	-	-	-	-	-
29	13	2	8	-	-	-	-	3
30	350*	350						25
31	3 - 4*	-	-	-	-	-	-	-
32	400*	-	-	-	-	-	-	-
33	50*	-	-	-	-	-	-	-
34	1*	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-
36	700*	150	100	-	60	500	50	12
37	6*	-	-	-	-	-	-	-
38	1.5*	1.5	-	-	-	1.5	-	-
39	150*	78	140	-	30	50	-	5
40	8*	-	-	-	-	-	-	-
41	15*	-	-	-	-	-	-	-
42	0.72*	-	-	-	-	-	-	-
43	1,200*	500	50	200	-	-	-	125
44	27	-	25	-	-	-	-	2
45	50*	-	-	-	-	-	-	-
46	40,000*	-	-	1,200	-	3,600	-	75
47	700*	-	-	-	-	-	-	-
48	50 - 100	-	-	-	-	-	-	-
49	40 - 50	-	8 - 10	-	30 - 40	30 - 40	-	1 - 2
50	20*	-	-	-	-	-	-	-
51	60*	-	-	1.5	1.5	-	-	10
52	17*	-	-	-	-	-	-	-

*: Answered value

Table A8.2.18 Results of questionnaire survey (5)

Serial Number	Water Sources	Treatment facilities	Discharge place	Requirement of Treatment facilities
1	Well	No facilities	Sewage network	No
2	Well	No facilities	Sbiena canal	Yes
3	Well	No facilities	Sewage network	No
4	Well	No facilities	Sewage network	Yes
5	Well	No facilities	Sewage network	unknown
6	Well	No facilities	Sewage network	No
7	Well	WWTP	Cultivation	No
8	Well	WWTP	Drainage canal	No
9	Well	WWTP	Drainage canal	No
10	-	WWTP	Drainage canal	No
11	-	No facilities	Sewage network	-
12	Well	WWTP	Sewage network	-
13	Water supply and well	WWTP	Drainage canal	Rehabilitation
14	Well	WWTP	River	-
15	Well	WWTP	-	-
16	Well	No facilities	Sewage network	No
17	Well	No facilities	Infiltration	-
18	Well	No facilities	No answer	No
19	Well	WWTP	River	No
20	Water supply and well	No facilities	Sewage network	Yes
21	Well	No facilities	Barada River	Yes
22	Water supply and well	WWTP	Barada River	No
23	Water supply	No facilities	Sewage network	-
24	Well	No facilities	Branch of Barada River	Yes
25	Water supply and well	WWTP	Alateeba lake	-
26	Water supply	No facilities	Sewage network	-
27	Well	WWTP	Mlihani River	-
28	Well	WWTP	Irrigation	-
29	Water supply and well	WWTP	Sewage network	-
30	Well	WWTP	Drainage canal	-
31	Well	WWTP	Sewage network	-
32	Well	WWTP	Aldayani River	-
33	Well	No facilities	Daayani River	-
34	Water supply and well	No facilities	Drainage canal	-
35	Well	No facilities	Sewage network	-
36	Well	No facilities	Sewage network	-
37	Well	No facilities	-	-
38	Well	No facilities	Drainage canal	No
39	Well	-	-	-
40	Well	No facilities	-	-
41	Well	No facilities	-	-
42	Water supply	No facilities	-	No
43	Al-sen reservoir	WWTP	The Mediterranean Sea	-
44	Well	No facilities	Penetration hole	-
45	Water supply	No facilities	River	-
46	Surface water	WWTP	Qattinah lake	-
47	Surface water	WWTP	Al-furat River	-
48	Water supply	No facilities	Al-furat River	-
49	Well and other	WWTP	Irrigation	Yes
50	Water supply	No facilities	-	-
51	Well	WWTP	Sewage network	-
52	Well	No facilities	-	-

Table A8.2.19 Results of questionnaire survey (6)

Serial Number	Category of industry	Discharge place	Construction year	Capacity of Facilities	Construction Cost (million Sp.)	Operation Cost (thousand Sp./year)
1	Textile	Sewage network				
2	Textile	Sbiena canal				
3	Food	Sewage network				
4	Covering metals	Sewage network				
5	Chemical	Sewage network				
6	Painting	Sewage network				
7	Aluminum	Cultivation	1994	25 m^3/hr	10	-
8	Oil refinery	Branch of al-awej river	2006	10 m^3/hr	3 - 4	-
9	Painting	Drainage canal	2002	-	2	280
10	Detergent	Drainage canal	-	-	-	-
11	Food	Sewage network				
12	Food	Sewage network	1976	-	-	-
13	Tannery	Drainage canal	1976	1,500 m^3/day	-	-
14	Tannery	River	-	-	-	-
15	Food	No data	1983	750 m^3/day	-	-
16	Pharmaceutical	Sewage network				
17	Food	Infiltration				
18	Painting	No answer				
19	Food	River	-	-	-	-
20	Food	Sewage network				
21	Oil refinery	Barada River				
22	Food	Barada River	2001	140 m^3/day	11	-
23	Dry Battery	Sewage network				
24	Pharmaceutical	Branch of Barada River				
25	detergents	Alateeba lake	-	-	-	-
26	Electroplating	Sewage network				
27	Textile	Mlihani River	-	-	-	-
28	Pesticide Production	Irrigation	-	-	-	-
29	Pharmaceutical	Sewage network	-	-	-	-
30	Aluminum	Drainage canal	1994	15 m^3/hr	10	1000
31	Detergent	Sewage network	2006	3 - 4 m^3/day	-	200
32	Tannery	Aldayani River	-	-	-	-
33	Tannery	Daayani River				
34	Electroplating	Drainage canal				
35	Detergent	Sewage network				
36	Paper Production	Sewage network				
37	Oil Pressing	No data				
38	Paper Production	Drainage canal				
39	Food	No data				
40	Oil Pressing	No data				
41	Oil Pressing	No data				
42	Oil Pressing	No data				
43	Oil refinery	The Mediterranean Sea	1978 1983	(Chemical treat.) 600 m3/hr (Biological treat.)	-	-
44	Food (Canning)	Penetration hole				
45	Food	River				
46	Fertilizer	Qattinah lake	-	-	-	-
47	Paper Production	Al-furat River	1980	40,000 m^3/day	-	-
48	Food	Al-furat River				
49	Oil Pressing	Irrigation	1990	6,000 m^3/year	0.8 - 1.0	-
50	Oil Pressing	-				
51	Aluminum	Sewage network	1976	60 m^3/day	-	-
52	Oil Pressing	-				

Table A8.2.20 Results of questionnaire survey (7)

Serial Number	Wastewater Treatment Processes							
	Sedimentation	Neutralization	Floatation	Biological treatment	Chemical Clarification	Oxidation pond process	Filtration	Others
1								
2								
3								
4								
5								
6								
7	o	o	o		o	o	o	
8	o	o	o		o	o	o	oil separation
9	o	o					o	
10	o	o	o	o	o	o	o	
11								
12	o							
13	o	o			o			
14	o							
15				o				
16								
17								
18								
19				o				oil separation
20								
21								
22	o	o	o	o	o	o	o	RO
23								
24								
25	o							
26								
27	o	o	o		o		o	
28	o	o			o			
29	No available data							
30	o	o		o	o	o		
31		o			o			
32	o							
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43	o	o	o	o	o	o		
44								Lagoon
45								
46	o	o						
47	o	o			o			
48								
49	o							
50								
51	o	o						
52								

Appendix 8.3 Estimation of Industrial Wastewater Pollution Load

Calculation of an industrial wastewater pollution load was calculated with the procedure shown in **Figure A8.3.1**.

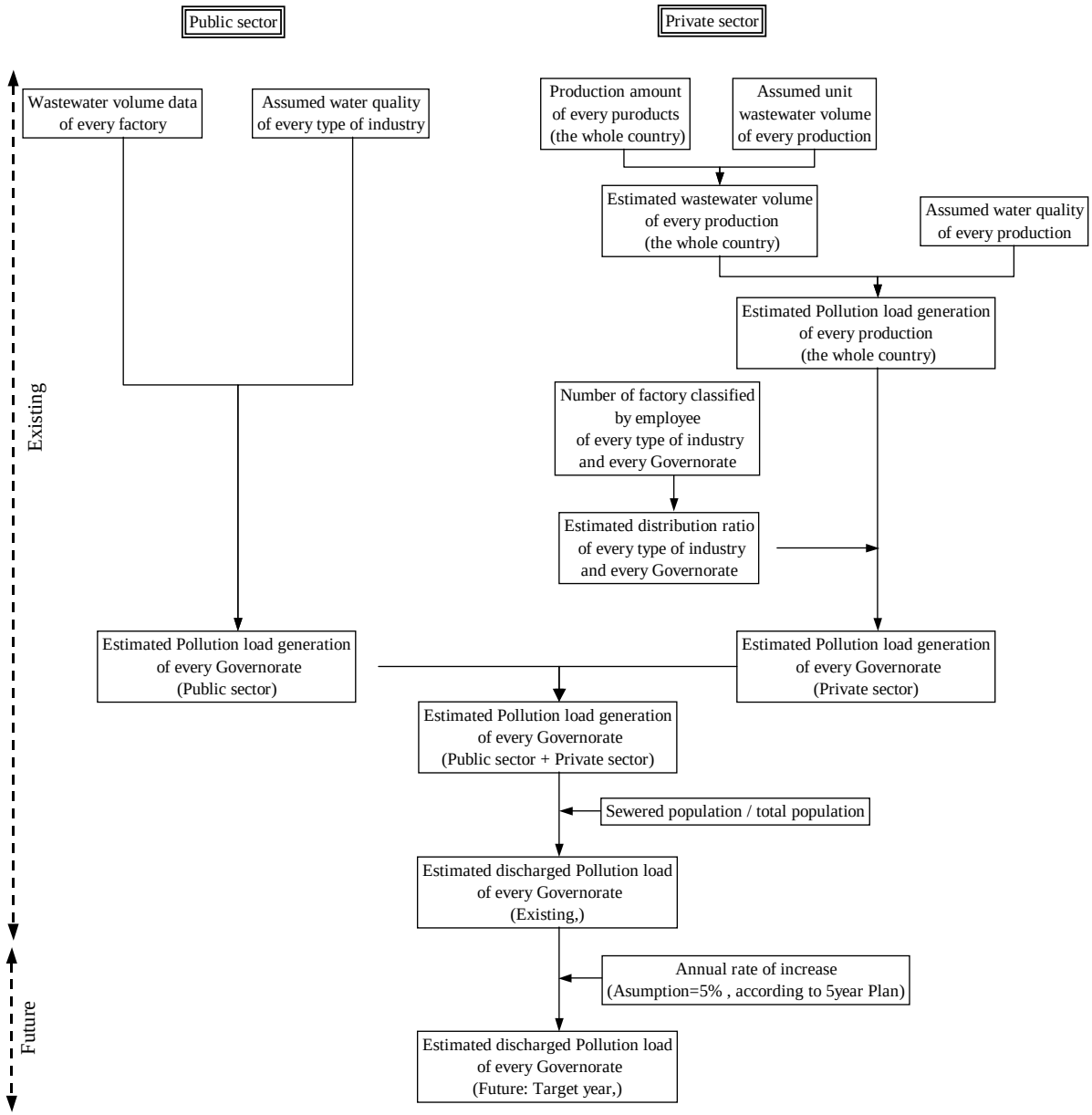

Figure A8.3.1 Procedure of Calculation

Results of estimated industrial wastewater pollution load (existing) is shown in **Table 8.3.1**. According to the Five-year Plan in Syria, the annual rate of increase of the amount of industrial production is assumed to be 5%. Therefore, the pollution load in the target year (2025) is calculated as 2.56 times of the existing one.

Table A8.3.1 (1) Estimated industrial wastewater pollution load (Existing)

Governorate	Discharged Water Volume (m^3/day)	Pollution Load Generation (kg/day)				
		BOD	COD	SS	T-N	T-P
Damascus *	16,041	8,329.4	56,007.8	20,726.9	840.5	258.9
Rural Damascus	28,336	19,821.0	108,473.2	34,383.8	1,515.6	636.2
Dar'aa	1,881	2,306.3	12,995.2	2,453.1	162.1	115.1
Tartous	2,030	4,638.2	32,672.0	3,224.1	833.9	745.6
Lattakia	4,268	5,027.7	31,844.0	6,718.4	693.1	498.6
Deir-ez-Zor	15,881	15,509.6	31,213.0	25,020.5	142.0	413.4
Hassakeh	1,969	1,637.7	8,609.2	2,968.7	112.8	28.6
Raqqa	12,537	17,007.2	27,712.4	5,391.2	345.8	79.1
Qunetra	53	101.8	436.5	62.0	2.1	1.4
Sweida	2,818	931.8	4,198.7	1,219.6	49.9	22.6
Homs	7,047	7,166.0	31,518.7	8,980.6	382.2	178.5
Hama *	19,743	10,818.5	45,491.3	10,571.4	467.0	359.6
Aleppo *	44,026	31,244.3	222,574.6	66,995.6	4,581.4	2,515.8
Idleb	10,034	14,517.5	46,630.4	7,739.1	839.6	571.6
Total	166,664.0	139,057.0	660,377.0	196,455.0	10,968.0	6,425.0

Governorate	Discharged Water Volume (m^3/day)	Discharged Pollution Load (kg/day)				
		BOD	COD	SS	T-N	T-P
Damascus *	16,041	606.0	7,777.0	3,895.0	163.0	22.0
Rural Damascus	28,336	17,354.0	95,116.0	30,210.0	1,324.0	552.0
Dar'aa	1,881	2,306.3	12,995.2	2,453.1	162.1	115.1
Tartous	2,030	4,638.2	32,672.0	3,224.1	833.9	745.6
Lattakia	4,268	4,955.7	31,109.0	6,170.4	677.1	496.6
Deir-ez-Zor	15,881	11,992.6	26,430.0	18,268.5	132.0	337.4
Hassakeh	1,969	1,637.7	8,609.2	2,968.7	112.8	28.6
Raqqa	12,537	4,932.2	11,612.4	2,861.2	159.8	38.1
Qunetra	53	101.8	436.5	62.0	2.1	1.4
Sweida	2,818	931.8	4,198.7	1,219.6	49.9	22.6
Homs	7,047	7,162.0	31,514.7	8,979.6	382.2	178.5
Hama *	19,743	5,298.0	22,536.0	5,630.0	280.0	159.0
Aleppo *	44,026	14,662.0	110,348.0	33,020.0	2,331.0	1,308.0
Idleb	10,034	14,517.5	46,630.4	7,739.1	839.6	571.6
Total	166,664.0	90,489.8	434,208.1	122,806.3	7,286.5	4,554.5

Table A8.3.1 (2) Estimated industrial wastewater pollution load (2025)

Governorate	Discharged Water Volume (m^3/day)	Pollution Load Generation (kg/day)				
		BOD	COD	SS	T-N	T-P
Damascus *	42,508	22,072.9	148,420.7	54,926.3	2,227.3	686.1
Rural Damascus	75,091	52,525.7	287,454.0	91,117.1	4,016.3	1,685.9
Dar'aa	4,985	6,111.7	34,437.3	6,500.7	429.6	305.0
Tartous	5,379	12,291.2	86,580.8	8,543.9	2,209.8	1,975.8
Lattakia	11,309	13,323.4	84,386.6	17,803.8	1,836.7	1,321.3
Deir-ez-Zor	42,083	41,100.4	82,714.5	66,304.3	376.3	1,095.5
Hassakeh	5,218	4,339.9	22,814.4	7,867.1	298.9	75.8
Raqqa	33,224	45,069.1	73,437.9	14,286.7	916.4	209.6
Qunetra	142	269.8	1,156.7	164.3	5.6	3.7
Sweida	7,469	2,469.3	11,126.6	3,231.9	132.2	59.9
Homs	18,674	18,989.9	83,524.6	23,798.6	1,012.8	473.0
Hama *	52,320	28,669.0	120,551.9	28,014.2	1,237.6	952.9
Aleppo *	116,670	82,797.4	589,822.7	177,538.3	12,140.7	6,666.9
Idleb	26,589	38,471.4	123,570.6	20,508.6	2,224.9	1,514.7
Total	441,661	368,501.1	1,749,999.3	520,605.8	29,065.1	17,026.1

Governorate	Discharged Water Volume (m^3/day)	Discharged Pollution Load (kg/day)				
		BOD	COD	SS	T-N	T-P
Damascus *	42,508	1,605.9	20,609.1	10,321.8	432.0	58.3
Rural Damascus	75,091	45,988.1	252,057.4	80,056.5	3,508.6	1,462.8
Dar'aa	4,985	6,111.7	34,437.3	6,500.7	429.6	305.0
Tartous	5,379	12,291.2	86,580.8	8,543.9	2,209.8	1,975.8
Lattakia	11,309	13,132.6	82,438.9	16,351.6	1,794.3	1,316.0
Deir-ez-Zor	42,083	31,780.4	70,039.5	48,411.5	349.8	894.1
Hassakeh	5,218	4,339.9	22,814.4	7,867.1	298.9	75.8
Raqqa	33,224	13,070.3	30,772.9	7,582.2	423.5	101.0
Qunetra	142	269.8	1,156.7	164.3	5.6	3.7
Sweida	7,469	2,469.3	11,126.6	3,231.9	132.2	59.9
Homs	18,674	18,979.3	83,514.0	23,795.9	1,012.8	473.0
Hama *	52,320	14,039.7	59,720.4	14,919.5	742.0	421.4
Aleppo *	116,670	38,854.3	292,422.2	87,503.0	6,177.2	3,466.2
Idleb	26,589	38,471.4	123,570.6	20,508.6	2,224.9	1,514.7
Total	441,661	239,798.0	1,150,651.7	325,436.7	19,309.2	12,069.4

The following data used for calculation are shown in from **Table A8.3.2** to **Table A8.3.10**.

1) Wastewater amount of factory (public sector) Table A8.3.2
2) Assumed wastewater quality of type of industry Table A8.3.3
3) Estimated pollution load (public sector) Table A8.3.4
4) Production amount of private factory Table A8.3.5
5) Estimated wastewater amount by type of industry (private sector) Table A8.3.6
6) Estimated pollution load generation (private sector) Table A8.3.7
7) Estimated distribution ratio of pollution load (private sector) Table A8.3.8
8) Estimated pollution load generation (private sector) Table A8.3.8
9) Estimated discharged pollution load (private sector) Table A8.3.10

Table A8.3.2 Wastewater amount of factory (public sector)

Type of industry	No.	Governorate	Production Items	Name of Factory	Wastewater (m^3/year)			
					Total	discharge to Sewarage system	discharge to public water bodies with treatment	discharge to public water bodies without treatment
Tobacco industries	1	Damascus	Tobacco	Al Qadam industrial assembly /Damascus	6,060	6,060	0	0
	2	Damascus	Tobacco	Damascus old facility	10,030 *	10,030	0	0
	3	Aleppo	Tobacco	Northerh district branch /Aleppo	14,000	14,000	0	0
	4	Lattakia	Tobacco	Coastal district branch /Lattakia	10,030 *	10,030	0	0
Food industies	1	Lattakia	Beer	Amreet beer factory	9,000 *	9,000	0	0
	2	Rural Damascus	Beer	Barada beer factory	9,000	1,500	7,500	0
	3	Aleppo	Oil	Aleppo oil company	80,986	80,986	0	0
	4	Rural Damascus	Oil	Damascus oil company	24,000	0	0	24,000
	5	Hama	Oil	Hama oil company	33,000	33,000	0	0
	6	Damascus	Biscuits	The Syrian company for biscuits " Ghraoui "	300	300	0	0
	7	Damascus	Biscuits	The Syrian company for biscuits "Camilyia"	600	600	0	0
	8	Aleppo	Sterilized milk, Biscuits	Al Sharq company for food products	29,000	29,000	0	0
	9	Sweida	Grapes products	The Syrian Arab company for grapes products	600,500	0	0	600,500
	10	Homs	Grapes products	Homs company for grapes products	9,427 *	0	0	9,427
	11	Damascus	Agricultural industries	Damascus preserves and agricultural industries	40,000	40,000	0	0
	12	Hassakeh	Stored good	Hasakeh preserves unit	22,871 *	0	0	22,871
	13	Deir-ez-Zor	Stored good	Al mayaden preserves unit	55,000	55,000	0	0
	14	Idleb	Stored good	Idleb preserves unit	6,000	6,000	0	0
	15	Tartous	Stored good	Dreikish mieral water company	35,074 *	0	0	35,074
	16	Rural Damascus	Stored good	Boukein mineral water company	51,500	51,500	0	0
	17	Damascus	macaroni and vermicelli	Al Yarmouk company for macaroni and vermicelli products	200	200	0	0
	18	Homs	Dairy	Homs Dairy company	7,500	7,500	0	0
	19	Rural Damascus	Dairy	Damascus Dairy company	115,000	115,000	0	0
Sugar industries	1	Homs	Sugar	Homs sugar factory A- the sugar facility	56,750	56,750	0	0
	2	Homs	Sugar	Homs sugar factory B- medical and industrial Alchol facility	40,150	40,150	0	0
	3	Homs	Sugar	Homs sugar factory C- the baker's soft yeast facility	90,950	90,950	0	0
	4	Homs	Sugar	Homs sugar factory D-sunflower oil and soap facility	13,850	13,850	0	0
	5	Homs	Sugar	Homs sugar factory E- soap stock facility	0 *	0	0	0
	6	Homs	Sugar	Homs sugar factory F-red beet refinery & cane sugar faciity	0 *	0	0	0
	7	Homs	Sugar	Homs sugar factory G- stimulator machines	33,250	33,250	0	0
	8	Deir-ez-Zor	Sugar	Deir Azzur sugar company	10,300	10,000	300	0
	9	Raqqa	Sugar	Al Rakka sugar company	3,480,000	0	3,450,000	30,000
	10	Homs	Sugar	Maskaneh sugar company	1,500	0	1,500	0
	11	Idleb	Sugar	Al Ghab sugar company	1,933,139 *	0	0	1,933,139
	12	Hama	Sugar	Tal Salhab sugar company	240,000	0	190,000	50,000
	13	Aleppo	Sugar	Aleppo yeast company	329,000	329,000	0	0
	14	Rural Damascus	Sugar	Damascus yeast company Al Fayhaa yeast- " Shabaa "	205,000	0	0	205,000
	15	Rural Damascus	Sugar	the national yeast company (Harasta)	129,000	129,000	0	0
Textile industries	1	Damascus	Textile	The united commercial industrial compa (al Kaboun)	406,000	0	0	406,000
	2	Damascus	Textile	The united arab company for industries (al Debs - Housh blas)	246,500	4,500	0	242,000
	3	Damascus	Textile	The general company for spinning and weaving (al kaboun)	311,000	311,000	0	0
	4	Rural Damascus	Textile	the general company for Nylon strings and socks	702,556	0	0	702,556
	5	Rural Damascus	Textile	The modern industries company	101,500	1,500	100,000	0
	6	Damascus	Textile	the general company for carpets (Housh blas)	8,800	8,800	0	0
	7	Rural Damascus	Textile	orient company for underwear "Al Sharq "	200,000	100,000	100,000	0
	8	Rural Damascus	Textile	the Syrian company for garments " Waseem "	11,500	0	0	11,500
	9	Homs	Textile	Al Waleed spinning company	119,000	119,000	0	0
	10	Homs	Textile	Homs company for spinning, textile,and dying	44,122	44,122	0	0
	11	Hama	Textile	Hama company for cotton yearns	132,000	132,000	0	0
	12	Hama	Textile	the general company for wool	83,000	83,000	0	0
	13	Aleppo	Textile	the general civil company for yarns and textile " al Ahlyiah "	88,000	88,000	0	0
	14	Aleppo	Textile	the Syrian company for weaving and textile	52,738	52,738	0	0
	15	Aleppo	Textile	Al Shahbaa company for weaving and textile	15,200	15,200	0	0
	16	Aleppo	Textile	the industrial company for garments	12,000	0	0	12,000
	17	Aleppo	Textile	the Arab company for underwear	32,000	32,000	0	0
	18	Aleppo	Textile	Aleppo silk company " Satex "	37,850	37,850	0	0
	19	Idleb	Textile	the general company for cotton yearns	53,000	53,000	0	0
	20	Idleb	Textile	Idleb weaving company	48,000	48,000	0	0
	21	Lattakia	Textile	Lattakia weaving company	60,000	60,000	0	0
	22	Lattakia	Textile	the general company for cotton yarns	303,468	0	303,468	0
	23	Aleppo	Textile	Jableh modern company of weaving	295,200	295,200	0	0
	24	Deir-ez-Zor	Textile	Al Furat weaving company	137,752 *	0	0	137,752
	25	Hassakeh	Textile	Al Hasakeh weaving company	295	0	0	295

Type of industry	No.	Governorate	Production Items	Name of Factory	Wastewater (m^3/year)			
					Total	discharge to Sewarage system	discharge to public water bodies with treatment	discharge to public water bodies without treatment
Cement and construction materials	1	Aleppo	Cement and construction materials	the Arab company for cement and construction materials	36,000	36,000	0	0
	2	Tartous		Tartus company for cement and construction materials	700	700	0	0
	3	Aleppo		Al Shahbaa company for cement and construction materials A-al Msalmieh factory /B-Al Sheikh Saeed factory 1- cement factory 2- Amianthus cement pipes factroy 3- the central administration	3,600	3,600	0	0
	4	Rural Damascus		Adra company for cement and construction materials	325,970 *	0	0	325,970
	5	Hama		The Syrian company for cement and construction materials	520,000	0	0	520,000
	6	Hama		Al Rastan company for cement and construction materials	49,897 *	0	0	49,897
	7	Damascus		The national company for cement and construction materials (Dummar)	10,000	0	0	10,000
	8	Aleppo		the commercial unit of manfacturing spareparts for Aleppo cement facilities	135,167 *	0	0	135,167
	9	Hama		The Arab company for porcelain and sanitary products	135,167 *	0	0	135,167
Engineering industries	1	Lattakia	Aluminum	General company for Aluminum industries	17,000	17,000	0	0
	2	Aleppo	Cables	Aleppo cables manufacturing company	270,325 *	270,325	0	0
	3	Hama	Iron and steel	General company of iron and steel products	3,260,000	3,260,000	0	0
	4	Lattakia	Wood	The Arab company for wood industry	1,500	0	500	1,000
	5	Lattakia	Electric engines	The General company for electric engines	46,771 *	0	46,771	0
	6	Aleppo	Battery and Liquid gas	The Syrian company for batteries and liquid gases	170,674 *	170,674	0	0
	7	Damascus	Electronic	The Syrian Arab company for electronic industries " Syronics" (Al kaboun)	48,500	48,500	0	0
	8	Rural Damascus	Matches and pressed wood	The general company for matches and pressed wood industries	46,000	23,000	0	23,000
	9	Rural Damascus	Cables	the General company for cables industries in Damascus	210,314 *	0	0	210,314
	10	Rural Damascus	Iron	the General company for iron industries " Barada "	21,000	0	21,000	0
	11	Damascus	Battery	dry batteries (Alkaline) company (Al Kadam- Damascus)	1,550	1,550	0	0
	12	Damascus	Nonferrous metal	the General company for transmuted industries (Housh-Blas)	3,000	3,000	0	0
	13	Damascus	Metallic constructions	metallic constructions	916,822 *	916,822	0	0
Chemical industries	1	Rural Damascus	Medical	the medical company Thameco	300	300	0	0
	2	Rural Damascus	Detergent	the detergents company	40,000	40,000	0	0
	3	Rural Damascus	Shoes	the shoes factory	79,704 *	0	0	79,704
	4	Rural Damascus	Painting	the paintings company	6,000	0	0	6,000
	5	Rural Damascus	Glass	Damascus glass industries	10,000	10,000	0	0
	6	Hama	Tyres	the tyres company	185,000	0	180,000	5,000
	7	Aleppo	Glass	Aleppo glass company	7,600	7,600	0	0
	8	Aleppo	Plastic	Aleppo plastic company	24,388 *	24,388	0	0
	9	Aleppo	Tannery	Aleppo tannery company	62,830	0	0	62,830
	10	Deir-ez-Zor	Paper	The paper company	4,270,000	0	4,220,000	50,000
	11	Rural Damascus	Tannery	Damascus tannery company	250,500	0	250,000	500
	12	Rural Damascus	Rubber	Al Ahlyiah rubber industries	55,200	0	0	55,200
	13	Homs	Fertilizer	the General company of fertilizers	575	0	0	575
Total					22,455,499	7,492,025	8,871,039	6,092,436
(upper: m3/year, lower: m3/day as 300 operation day /year)					74,852	24,973	29,570	20,308

*: The value of wastewater is estimated or assumed.
Source: Ministry of Industry

Table A8.3.3 Assumed wastewater quality of type of industry

	Production	Estimated Wastewater Quality				
		BOD	CODcr	SS	T-N	T-P
1	Tobacco	150	550	170	5.50	2.50
2	Beer	13,000	7,400	310	26.9	30.8
3	Vegitable oil	4,400	11,800	2,600	30.0	15.0
4	Olive oil	7,200	60,000	2,800	1,820	1,720
5	Soap, Detergent	320	3,800	1,200	8.92	231
6	Biscuits	860	3,000	610	35.0	15.0
7	Arak	22	40	20	0.462	0.169
8	Tomato paste, Apricot jam, Peas	25.0	920	65.0	2.62	1.23
9	Macaroni and vermicelli products	730	1,000	330	30.0	15.0
10	Sterilized milk	1,600	2,700	470	30.8	30.8
11	Dairy	400	1,900	150	3.85	3.85
12	Sugar and sugar refining	1,400	2,000	340	25.0	5.50
13	Soft yeast	2,600	7,700	840	289	7.69
14	Cotton yearns	280	3,600	1,800	75.5	10.4
15	Wool yarns	280	3,600	1,800	75.5	10.4
16	Dyed fabrics, Printed fabrics	280	3,600	1,800	75.5	10.4
17	Ready made garments	280	3,600	1,800	75.5	10.4
18	Underwear	280	3,600	1,800	75.5	10.4
19	Wool carpet	280	3,600	1,800	75.5	10.4
20	Cement and construction materials	30	27	200	0	0
21	Aluminum	53	300	2,900	57.6	1.38
22	Cables	50	38	30	0	0
23	Reinforced round bars, Billets, Metallic pipes	360	1,400	230	7.50	15.0
24	Plywood, Blackboard, Lined chipboard	3,000	22,000	4,100	1.25	4.00
25	Motors, Transfomers	10	110	100	0	0
26	Refrigerators	10	110	100	0	0
27	Batteries	40	2,700	150	27.0	0.500
28	Nonferrous metal	50	38	30	0	0
29	Capsules, Tablets, Serums	320	1,200	160	30.0	15.0
30	Shose	10	38	20	30.0	15.0
31	Paints	310	3,400	270	29.6	44.2
32	Flat glass sheets, Patterned glass	10	19	100	0	0
33	External tyres, Internal tyres	22	23	50	30.0	15.0
34	Plastic	10	38	100	30.0	15.0
35	Paper	990	1,700	1,600	3.72	27.1
36	Leathers	550	5,100	820	222	45.1
37	Plastic films	10	38	100	30.0	15.0
38	Calnitro fertilizers, Urea fertilizers, Ammonia	91	610	78	38.6	6.95
39	Slaughterhouse, Meat factory	1,100	14,000	540	65.4	67.8
40	Electroplating	120	4,700	88	24.5	3.07
41	Oil refinery factory	580	10,000	530	52.7	70.0
42	Pharmaceutical	280	3,600	1,800	49.1	6.73
43	Detergent	320	3,800	1,200	5.80	150
44	Pesticide	270	2,000	84	38.3	9.85
45	Carbonated Beverages	340	1,300	370	30.0	15.0
46	Ceramic	10	11	2,700	0	0

Items	BOD	CODcr	SS	T-N	T-P
On-site treatment facilities	Removal Efficiency (%)				
No mention or Sedimentation process (A)	25%	20%	30%	20%	20%
Septic tank (B)	50%	40%	60%	30%	30%
Stabilization pond (C)	75%	70%	65%	65%	65%

Table A8.3.4 (1) Estimated pollution load (public sector: BOD)

Type of industry	No.	Governorate	Production Items	Name of Factory	Wastewater (m^3/year)				Water Quality (BOD mg/l)			Pollution Load (kg/year)				
					Total	(A) discharge to Sewarage system	(B) discharge to public water bodies with treatment	(C) discharge to public water bodies without treatment	(A)	(B)	(C)	Generation	Dischraged Pollution Load			
													Total	(A)	(B)	(C)
Tobacco industries	1	Damascus	Tobacco	Al Qadam industrial assembly /Damascus	6,060	6,060	0	0	0	-	150	909	0	0	0	0
	2	Damascus	Tobacco	Damascus old facility	10,030	10,030	0	0	0	-	150	1,505	0	0	0	0
	3	Aleppo	Tobacco	Northerh district branch /Aleppo	14,000	14,000	0	0	0	-	150	2,100	0	0	0	0
	4	Lattakia	Tobacco	Coastal district branch /Lattakia	10,030	10,030	0	0	150	-	150	1,505	1,505	1,505	0	0
Food industies	1	Lattakia	Beer	Amreet beer factory	9,000	9,000	0	0	13,000	-	13,000	117,000	117,000	117,000	0	0
	2	Rural Damascus	Beer	Barada beer factory	9,000	1,500	7,500 A	0	13,000	9,800	13,000	117,000	93,000	19,500	73,500	0
	3	Aleppo	Oil	Aleppo oil company	80,986	80,986	0	0	0	-	4,400	356,338	0	0	0	0
	4	Rural Damascus	Oil	Damascus oil company	24,000	0	0	24,000	4,400	-	4,400	105,600	105,600	0	0	105,600
	5	Hama	Oil	Hama oil company	33,000	33,000	0	0	0	-	4,400	145,200	0	0	0	0
	6	Damascus	Biscuits	The Syrian company for biscuits " Ghraoui "	300	300	0	0	0	-	860	258	0	0	0	0
	7	Damascus	Biscuits	The Syrian company for biscuits "Camilyia"	600	600	0	0	0	-	860	516	0	0	0	0
	8	Aleppo	Sterilized milk, Biscuits	Al Sharq company for food products	29,000	29,000	0	0	0	-	1,600	46,400	0	0	0	0
	9	Sweida	Arak	The Syrian Arab company for grapes products	600,500	0	0	600,500	22	-	22	13,211	13,211	0	0	13,211
	10	Homs	Arak	Homs company for grapes products	9,427	0	0	9,427	22	-	22	207	207	0	0	207
	11	Damascus	Agricultural industries	Damascus preserves and agricultural industries	40,000	40,000	0	0	0	-	25	1,000	0	0	0	0
	12	Hassakeh	Stored good	Hasakeh preserves unit	22,871	0	0	22,871	25	-	25	572	572	0	0	572
	13	Deir-ez-Zor	Stored good	Al mayaden preserves unit	55,000	55,000	0	0	25	-	25	1,375	1,375	1,375	0	0
	14	Idleb	Stored good	Idleb preserves unit	6,000	6,000	0	0	25	-	25	150	150	150	0	0
	15	Tartous	Stored good	Dreikish mineral water company	35,074	0	0	35,074	25	-	25	877	877	0	0	877
	16	Rural Damascus	Stored good	Boukein mineral water company	51,500	51,500	0	0	25	-	25	1,288	1,288	1,288	0	0
	17	Damascus	macaroni and vermicelli	Al Yarmouk company for macaroni and vermicelli products	200	200	0	0	0	-	730	146	0	0	0	0
	18	Homs	Dairy	Homs Dairy company	7,500	7,500	0	0	400	-	400	3,000	3,000	3,000	0	0
	19	Rural Damascus	Dairy	Damascus Dairy company	115,000	115,000	0	0	400	-	400	46,000	46,000	46,000	0	0
Sugar industries	1	Homs	Sugar	Homs sugar factory A- the sugar facility	56,750	56,750	0	0	1,400	-	1,400	79,450	79,450	79,450	0	0
	2	Homs	Sugar	Homs sugar factory B- medical and industrial Alchol facility	40,150	40,150	0	0	1,400	-	1,400	56,210	56,210	56,210	0	0
	3	Homs	Sugar	Homs sugar factory C- the baker's soft yeast facility	90,950	90,950	0	0	1,400	-	1,400	127,330	127,330	127,330	0	0
	4	Homs	Sugar	Homs sugar factory D-sunflower oil and soap facility	13,850	13,850	0	0	1,400	-	1,400	19,390	19,390	19,390	0	0
	5	Homs	Sugar	Homs sugar factory E- soap stock facility	0	0	0	0	1,400	-	1,400	-	0	0	0	0
	6	Homs	Sugar	Homs sugar factory F-red beet refinery & cane sugar faciity	0	0	0	0	1,400	-	1,400	-	0	0	0	0
	7	Homs	Sugar	Homs sugar factory G- stimulator machines	33,250	33,250	0	0	1,400	-	1,400	46,550	46,550	46,550	0	0
	8	Deir-ez-Zor	Sugar	Deir Azzur sugar company	10,300	10,000	300 A	0	1,400	1,100	1,400	14,420	14,330	14,000	330	0
	9	Raqqa	Sugar	Al Rakka sugar company	3,480,000	0	3,450,000 C	30,000	1,400	350	1,400	4,872,000	1,249,500	0	1,207,500	42,000
	10	Homs	Sugar	Maskaneh sugar company	1,500	0	1,500 B	0	1,400	700	1,400	2,100	1,050	0	1,050	0
	11	Idleb	Sugar	Al Ghab sugar company	1,933,139	0	0	1,933,139	1,400	-	1,400	2,706,394	2,706,394	0	0	2,706,394
	12	Hama	Sugar	Tal Salhab sugar company	240,000	0	190,000 A	50,000	0	1,100	1,400	336,000	279,000	0	209,000	70,000
	13	Aleppo	Sugar	Aleppo yeast company	329,000	329,000	0	0	0	-	1,400	460,600	0	0	0	0
	14	Rural Damascus	Sugar	Damascus yeast company Al Fayhaa yeast- " Shabaa "	205,000	0	0	205,000	1,400	-	1,400	287,000	287,000	0	0	287,000
	15	Rural Damascus	Sugar	the national yeast company (Harasta)	129,000	129,000	0	0	1,400	-	1,400	180,600	180,600	180,600	0	0
Textile industries	1	Damascus	Textile	The united commercial industrial compa (al Kabouh)	406,000	0	0	406,000	0	-	280	113,680	113,680	0	0	113,680
	2	Damascus	Textile	The united arab company for industries (al Debs - Housh blas)	246,500	4,500	0	242,000	0	-	280	69,020	67,760	0	0	67,760
	3	Damascus	Textile	The general company for spinning and weaving (al kabouh)	311,000	311,000	0	0	0	-	280	87,080	0	0	0	0
	4	Rural Damascus	Textile	the general company for Nylon strings and socks	702,556	0	0	702,556	280	-	280	196,716	196,716	0	0	196,716
	5	Rural Damascus	Textile	The modern industries company	101,500	1,500	100,000 A	0	280	210	280	28,420	21,420	420	21,000	0
	6	Damascus	Textile	the general company for carpets (Housh blas)	8,800	8,800	0	0	0	-	280	2,464	0	0	0	0
	7	Rural Damascus	Textile	orient company for underwear "Al Sharq "	200,000	100,000	0	100,000	280	-	280	56,000	56,000	28,000	0	28,000
	8	Rural Damascus	Textile	the Syrian company for garments " Waseem "	11,500	0	0	11,500	280	-	280	3,220	3,220	0	0	3,220
	9	Homs	Textile	Al Waleed spinning company	119,000	119,000	0	0	280	-	280	33,320	33,320	33,320	0	0
	10	Homs	Textile	Homs company for spinning, textile,and dying	44,122	44,122	0	0	280	-	280	12,354	12,354	12,354	0	0
	11	Hama	Textile	Hama company for cotton yearns	132,000	132,000	0	0	0	-	280	36,960	0	0	0	0
	12	Hama	Textile	the general company for wool	83,000	83,000	0	0	0	-	280	23,240	0	0	0	0
	13	Aleppo	Textile	the general civil company for yarns and textile " al Ahlyiah "	88,000	88,000	0	0	0	-	280	24,640	0	0	0	0
	14	Aleppo	Textile	the Syrian company for weaving and textile	52,738	52,738	0	0	0	-	280	14,767	0	0	0	0
	15	Aleppo	Textile	Al Shahbaa company for weaving and textile	15,200	15,200	0	0	0	-	280	4,256	0	0	0	0
	16	Aleppo	Textile	the industrial company for garments	12,000	0	0	12,000	0	-	280	3,360	3,360	0	0	3,360
	17	Aleppo	Textile	the Arab company for underwear	32,000	32,000	0	0	0	-	280	8,960	0	0	0	0
	18	Aleppo	Textile	Aleppo silk company " Satex "	37,850	37,850	0	0	0	-	280	10,598	0	0	0	0
	19	Idleb	Textile	the general company for cotton yearns	53,000	53,000	0	0	280	-	280	14,840	14,840	14,840	0	0
	20	Idleb	Textile	Idleb weaving company	48,000	48,000	0	0	280	-	280	13,440	13,440	13,440	0	0
	21	Lattakia	Textile	Lattakia weaving company	60,000	60,000	0	0	280	-	280	16,800	16,800	16,800	0	0
	22	Lattakia	Textile	the general company for cotton yarns	303,468	0	303,468 A	0	280	210	280	84,971	63,728	0	63,728	0
	23	Aleppo	Textile	Jableh modern company of weaving	295,200	295,200	0	0	0	-	280	82,656	0	0	0	0
	24	Deir-ez-Zor	Textile	Al Furat weaving company	137,752	0	0	137,752	280	-	280	38,571	38,571	0	0	38,571
	25	Hassakeh	Textile	Al Hasakeh weaving company	295	0	0	295	280	-	280	83	83	0	0	83

Type of industry	No.	Governorate	Production Items	Name of Factory	Wastewater (m^3/year)				Water Quality (BOD mg/l)			Pollution Load (kg/year)				
					Total	(A) discharge to Sewarage system	(B) discharge to public water bodies with treatment	(C) discharge to public water bodies without treatment	(A)	(B)	(C)	Generation	Dischraged Pollution Load			
													Total	(A)	(B)	(C)
Cement and construction materials	1	Aleppo	Cement and construction materials	the Arab company for cement and construction materials	36,000	36,000	0	0	0	-	30	1,080	0	0	0	0
	2	Tartous		Tartus company for cement and construction materials	700	700	0	0	30	-	30	21	21	21	0	0
	3	Aleppo		Al Shahbaa company for cement and construction materials A-al Msalmieh factory /B-Al Sheikh Saeed factory	3,600	3,600	0	0	0	-	30	108	0	0	0	0
				1- cement factory					0	-	30	-	0	0	0	0
				2- Amianthus cement pipes factroy					0	-	30	-	0	0	0	0
				3- the central administration					0	-	30	-	0	0	0	0
	4	Rural Damascus		Adra company for cement and construction materials	325,970	0	0	325,970	30	-	30	9,779	9,779	0	0	9,779
	5	Hama		The Syrian company for cement and construction materials	520,000	0	0	520,000	0	-	30	15,600	15,600	0	0	15,600
	6	Hama		Al Rastan company for cement and construction materials	49,897	0	0	49,897	0	-	30	1,497	1,497	0	0	1,497
	7	Damascus		The national company for cement and construction materials (Dummar)	10,000	0	0	10,000	0	-	30	300	300	0	0	300
	8	Aleppo		the commercial unit of manfacturing spareparts for Aleppo cement facilities	135,167	0	0	135,167	0	-	30	4,055	4,055	0	0	4,055
	9	Hama		The Arab company for porcelain and sanitary products	135,167	0	0	135,167	0	-	30	4,055	4,055	0	0	4,055
Engineering industries	1	Lattakia	Aluminum	General company for Aluminum industries	17,000	17,000	0	0	53	-	53	901	901	901	0	0
	2	Aleppo	Cables	Aleppo cables manufacturing company	270,325	270,325	0	0	0	-	50	13,516	0	0	0	0
	3	Hama	Iron and steel	General company of iron and steel products	3,260,000	3,260,000	0	0	0	-	360	1,173,600	0	0	0	0
	4	Lattakia	Wood	The Arab company for wood industry	1,500	0	500	A 1,000	3,000	2,250	3,000	4,500	4,125	0	1,125	3,000
	5	Lattakia	Electric engines	The General company for electric engines	46,771	0	0	46,771	10	-	10	468	468	0	0	468
	6	Aleppo	Battery and Liquid gas	The Syrian company for batteries and liquid gases	170,674	170,674	0	0	0	-	40	6,827	0	0	0	0
	7	Damascus	Electronic	The Syrian Arab company for electronic industries " Syronics" (Al kaboun)	48,500	48,500	0	0	0	-	10	485	0	0	0	0
	8	Rural Damascus	Matches and pressed wood	The general company for matches and pressed wood industries	46,000	23,000	0	23,000	3,000	-	3,000	138,000	138,000	69,000	0	69,000
	9	Rural Damascus	Cables	the General company for cables industries in Damascus	210,314	0	0	210,314	50	-	50	10,516	10,516	0	0	10,516
	10	Rural Damascus	Iron	the General company for iron industries " Barada "	21,000	0	21,000	A 0	360	270	360	7,560	5,670	0	5,670	0
	11	Damascus	Battery	dry batteries (Alkaline) company (Al Kadam- Damascus)	1,550	1,550	0	0	0	-	40	62	0	0	0	0
	12	Damascus	Nonferrous metal	the General company for transmuted industries (Housh-Blas)	3,000	3,000	0	0	0	-	50	150	0	0	0	0
	13	Damascus	Metallic constructions	metallic constructions	916,822	916,822	0	0	0	-	360	330,056	0	0	0	0
Chemical industries	1	Rural Damascus	Medical	the medical company Thameco	300	300	0	0	320	-	320	96	96	96	0	0
	2	Rural Damascus	Detergent	the detergents company	40,000	40,000	0	0	320	-	320	12,800	12,800	12,800	0	0
	3	Rural Damascus	Shoes	the shoes factory	79,704	0	0	79,704	10	-	10	797	797	0	0	797
	4	Rural Damascus	Painting	the paintings company	6,000	0	0	6,000	310	-	310	1,860	1,860	0	0	1,860
	5	Rural Damascus	Glass	Damascus glass industries	10,000	10,000	0	0	10	-	10	100	100	100	0	0
	6	Hama	Tyres	the tyres company	185,000	0	180,000	A 5,000	0	20	22	4,070	3,710	0	3,600	110
	7	Aleppo	Glass	Aleppo glass company	7,600	7,600	0	0	0	-	10	76	0	0	0	0
	8	Aleppo	Plastic	Aleppo plastic company	24,388	24,388	0	0	0	-	10	244	0	0	0	0
	9	Aleppo	Tannery	Aleppo tannery company	62,830	0	0	62,830	0	-	550	34,557	34,557	0	0	34,557
	10	Deir-ez-Zor	Paper	The paper company	4,270,000	0	4,220,000	A 50,000	990	740	990	4,227,300	3,172,300	0	3,122,800	49,500
	11	Rural Damascus	Tannery	Damascus tannery company	250,500	0	250,000	A 500	550	410	550	137,775	102,775	0	102,500	275
	12	Rural Damascus	Rubber	Al Ahlyiah rubber industries	55,200	0	0	55,200	22	-	22	1,214	1,214	0	0	1,214
	13	Homs	Fertilizer	the General company of fertilizers	575	0	0	575	91	-	91	52	52	0	0	52
Total					22,455,499	7,492,025	8,724,268	6,239,207	-	-	-	17,274,694	9,611,129	915,440	4,811,803	3,883,886
(upper: m3/year, lower: m3/day as 300 operation day /year)					74,852	24,973	29,081	20,797	-	-	-	57,582	32,036	3,051	16,039	12,946

Treatment method A: No detail mention or sedimentation process
B: septic tank
C: Stabilization pond

Table A8.3.4 (2) Estimated pollution load (public sector: COD)

Type of industry	No.	Governorate	Production Items	Name of Factory	Wastewater (m^3/year)					Water Quality (COD mg/l)			Pollution Load (kg/year)				
					Total	(A) discharge to Sewarage system	(B) discharge to public water bodies with treatment		(C) discharge to public water bodies without treatment	(A)	(B)	(C)	Generation	Dischraged Pollution Load			
														Total	(A)	(B)	(C)
Tobacco industries	1	Damascus	Tobacco	Al Qadam industrial assembly /Damascus	6,060	6,060	0		0	0	-	550	3,333	0	0	0	0
	2	Damascus	Tobacco	Damascus old facility	10,030	10,030	0		0	0	-	550	5,517	0	0	0	0
	3	Aleppo	Tobacco	Northerh district branch /Aleppo	14,000	14,000	0		0	0	-	550	7,700	0	0	0	0
	4	Lattakia	Tobacco	Coastal district branch /Lattakia	10,030	10,030	0		0	550	-	550	5,517	5,517	5,517	0	0
Food industies	1	Lattakia	Beer	Amreet beer factory	9,000	9,000	0		0	7,400	-	7,400	66,600	66,600	66,600	0	0
	2	Rural Damascus	Beer	Barada beer factory	9,000	1,500	7,500	A	0	7,400	5,900	7,400	66,600	55,350	11,100	44,250	0
	3	Aleppo	Oil	Aleppo oil company	80,986	80,986	0		0	0	-	11,800	955,635	0	0	0	0
	4	Rural Damascus	Oil	Damascus oil company	24,000	0	0		24,000	11,800	-	11,800	283,200	283,200	0	0	283,200
	5	Hama	Oil	Hama oil company	33,000	33,000	0		0	0	-	11,800	389,400	0	0	0	0
	6	Damascus	Biscuits	The Syrian company for biscuits " Ghraoui "	300	300	0		0	0	-	3,000	900	0	0	0	0
	7	Damascus	Biscuits	The Syrian company for biscuits "Camilyia"	600	600	0		0	0	-	3,000	1,800	0	0	0	0
	8	Aleppo	Sterilized milk, Biscuits	Al Sharq company for food products	29,000	29,000	0		0	0	-	2,700	78,300	0	0	0	0
	9	Sweida	Arak	The Syrian Arab company for grapes products	600,500	0	0		600,500	40	-	40	24,020	24,020	0	0	24,020
	10	Homs	Arak	Homs company for grapes products	9,427	0	0		9,427	40	-	40	377	377	0	0	377
	11	Damascus	Agricultural industries	Damascus preserves and agricultural industries	40,000	40,000	0		0	0	-	920	36,800	0	0	0	0
	12	Hassakeh	Stored good	Hasakeh preserves unit	22,871	0	0		22,871	920	-	920	21,041	21,041	0	0	21,041
	13	Deir-ez-Zor	Stored good	Al mayaden preserves unit	55,000	55,000	0		0	920	-	920	50,600	50,600	50,600	0	0
	14	Idleb	Stored good	Idleb preserves unit	6,000	6,000	0		0	920	-	920	5,520	5,520	5,520	0	0
	15	Tartous	Stored good	Dreikish mieral water company	35,074	0	0		35,074	920	-	920	32,268	32,268	0	0	32,268
	16	Rural Damascus	Stored good	Boukein mineral water company	51,500	51,500	0		0	920	-	920	47,380	47,380	47,380	0	0
	17	Damascus	macaroni and vermicelli	Al Yarmouk company for macaroni and vermicelli products	200	200	0		0	0	-	1,000	200	0	0	0	0
	18	Homs	Dairy	Homs Dairy company	7,500	7,500	0		0	1,900	-	1,900	14,250	14,250	14,250	0	0
	19	Rural Damascus	Dairy	Damascus Dairy company	115,000	115,000	0		0	1,900	-	1,900	218,500	218,500	218,500	0	0
Sugar industries	1	Homs	Sugar	Homs sugar factory A- the sugar facility	56,750	56,750	0		0	2,000	-	2,000	113,500	113,500	113,500	0	0
	2	Homs	Sugar	Homs sugar factory B- medical and industrial Alchol facility	40,150	40,150	0		0	2,000	-	2,000	80,300	80,300	80,300	0	0
	3	Homs	Sugar	Homs sugar factory C- the baker's soft yeast facility	90,950	90,950	0		0	2,000	-	2,000	181,900	181,900	181,900	0	0
	4	Homs	Sugar	Homs sugar factory D-sunflower oil and soap facility	13,850	13,850	0		0	2,000	-	2,000	27,700	27,700	27,700	0	0
	5	Homs	Sugar	Homs sugar factory E- soap stock facility	0	0	0		0	2,000	-	2,000	-	0	0	0	0
	6	Homs	Sugar	Homs sugar factory F-red beet refinery & cane sugar facitiy	0	0	0		0	2,000	-	2,000	-	0	0	0	0
	7	Homs	Sugar	Homs sugar factory G- stimulator machines	33,250	33,250	0		0	2,000	-	2,000	66,500	66,500	66,500	0	0
	8	Deir-ez-Zor	Sugar	Deir Azzur sugar company	10,300	10,000	300	A	0	2,000	1,600	2,000	20,600	20,480	20,000	480	0
	9	Raqqa	Sugar	Al Rakka sugar company	3,480,000	0	3,450,000	C	30,000	2,000	600	2,000	6,960,000	2,130,000	0	2,070,000	60,000
	10	Homs	Sugar	Maskaneh sugar company	1,500	0	1,500	B	0	2,000	1,200	2,000	3,000	1,800	0	1,800	0
	11	Idleb	Sugar	Al Ghab sugar company	1,933,139	0	0		1,933,139	2,000	-	2,000	3,866,278	3,866,278	0	0	3,866,278
	12	Hama	Sugar	Tal Salhab sugar company	240,000	0	190,000	A	50,000	0	1,600	2,000	480,000	404,000	0	304,000	100,000
	13	Aleppo	Sugar	Aleppo yeast company	329,000	329,000	0		0	0	-	2,000	658,000	0	0	0	0
	14	Rural Damascus	Sugar	Damascus yeast company Al Fayhaa yeast-" Shabaa "	205,000	0	0		205,000	2,000	-	2,000	410,000	410,000	0	0	410,000
	15	Rural Damascus	Sugar	the national yeast company (Harasta)	129,000	129,000	0		0	2,000	-	2,000	258,000	258,000	258,000	0	0
Textile industries	1	Damascus	Textile	The united commercial industrial compa (al Kabour)	406,000	0	0		406,000	0	-	3,600	1,461,600	1,461,600	0	0	1,461,600
	2	Damascus	Textile	The united arab company for industries (al Debs - Housh blas)	246,500	4,500	0		242,000	0	-	3,600	887,400	871,200	0	0	871,200
	3	Damascus	Textile	The general company for spinning and weaving (al kabour)	311,000	311,000	0		0	0	-	3,600	1,119,600	0	0	0	0
	4	Rural Damascus	Textile	the general company for Nylon strings and socks	702,556	0	0		702,556	3,600	-	3,600	2,529,202	2,529,202	0	0	2,529,202
	5	Rural Damascus	Textile	The modern industries company	101,500	1,500	100,000	A	0	3,600	2,880	3,600	365,400	293,400	5,400	288,000	0
	6	Damascus	Textile	the general company for carpets (Housh blas)	8,800	8,800	0		0	0	-	3,600	31,680	0	0	0	0
	7	Rural Damascus	Textile	orient company for underwear "Al Sharq "	200,000	100,000	0		100,000	3,600	-	3,600	720,000	720,000	360,000	0	360,000
	8	Rural Damascus	Textile	the Syrian company for garments " Waseem "	11,500	0	0		11,500	3,600	-	3,600	41,400	41,400	0	0	41,400
	9	Homs	Textile	Al Waleed spinning company	119,000	119,000	0		0	3,600	-	3,600	428,400	428,400	428,400	0	0
	10	Homs	Textile	Homs company for spinning, textile,and dying	44,122	44,122	0		0	3,600	-	3,600	158,839	158,839	158,839	0	0
	11	Hama	Textile	Hama company for cotton yearns	132,000	132,000	0		0	0	-	3,600	475,200	0	0	0	0
	12	Hama	Textile	the general company for wool	83,000	83,000	0		0	0	-	3,600	298,800	0	0	0	0
	13	Aleppo	Textile	the general civil company for yarns and textile " al Ahliyah "	88,000	88,000	0		0	0	-	3,600	316,800	0	0	0	0
	14	Aleppo	Textile	the Syrian company for weaving and textile	52,738	52,738	0		0	0	-	3,600	189,857	0	0	0	0
	15	Aleppo	Textile	Al Shahbaa company for weaving and textile	15,200	15,200	0		0	0	-	3,600	54,720	0	0	0	0
	16	Aleppo	Textile	the industrial company for garments	12,000	0	0		12,000	0	-	3,600	43,200	43,200	0	0	43,200
	17	Aleppo	Textile	the Arab company for underwear	32,000	32,000	0		0	0	-	3,600	115,200	0	0	0	0
	18	Aleppo	Textile	Aleppo silk company " Satex "	37,850	37,850	0		0	0	-	3,600	136,260	0	0	0	0
	19	Idleb	Textile	the general company for cotton yearns	53,000	53,000	0		0	3,600	-	3,600	190,800	190,800	190,800	0	0
	20	Idleb	Textile	Idleb weaving company	48,000	48,000	0		0	3,600	-	3,600	172,800	172,800	172,800	0	0
	21	Lattakia	Textile	Lattakia weaving company	60,000	60,000	0		0	3,600	-	3,600	216,000	216,000	216,000	0	0
	22	Lattakia	Textile	the general company for cotton yarns	303,468	0	303,468	A	0	3,600	2,880	3,600	1,092,485	873,988	0	873,988	0
	23	Aleppo	Textile	Jableh modern company of weaving	295,200	295,200	0		0	0	-	3,600	1,062,720	0	0	0	0
	24	Deir-ez-Zor	Textile	Al Furat weaving company	137,752	0	0		137,752	3,600	-	3,600	495,907	495,907	0	0	495,907
	25	Hassakeh	Textile	Al Hasakeh weaving company	295	0	0		295	3,600	-	3,600	1,062	1,062	0	0	1,062

Type of industry	No.	Governorate	Production Items	Name of Factory	Wastewater (m^3/year)				Water Quality (COD mg/l)			Pollution Load (kg/year)				
					Total	(A) discharge to Sewarage system	(B) discharge to public water bodies with treatment	(C) discharge to public water bodies without treatment	(A)	(B)	(C)	Generation	Dischraged Pollution Load			
													Total	(A)	(B)	(C)
Cement and construction materials	1	Aleppo	Cement and construction materials	the Arab company for cement and construction materials	36,000	36,000	0	0	0	-	27	958	0	0	0	0
	2	Tartous		Tartus company for cement and construction materials	700	700	0	0	27	-	27	19	19	19	0	0
	3	Aleppo		Al Shahbaa company for cement and construction materials A-al Msalmieh factory /B-Al Sheikh Saeed factory	3,600	3,600	0	0	0	-	27	96	0	0	0	0
				1- cement factory					0	-	27	-	0	0	0	0
				2- Amianthus cement pipes factroy					0	-	27	-	0	0	0	0
				3- the central administration					0	-	27	-	0	0	0	0
	4	Rural Damascus		Adra company for cement and construction materials	325,970	0	0	325,970	27	-	27	8,671	8,671	0	0	8,671
	5	Hama		The Syrian company for cement and construction materials	520,000	0	0	520,000	0	-	27	13,832	13,832	0	0	13,832
	6	Hama		Al Rastan company for cement and construction materials	49,897	0	0	49,897	0	-	27	1,327	1,327	0	0	1,327
	7	Damascus		The national company for cement and construction materials (Dummar)	10,000	0	0	10,000	0	-	27	266	266	0	0	266
	8	Aleppo		the commercial unit of manfacturing spareparts for Aleppo cement facilities	135,167	0	0	135,167	0	-	27	3,595	3,595	0	0	3,595
	9	Hama		The Arab company for porcelain and sanitary products	135,167	0	0	135,167	0	-	27	3,595	3,595	0	0	3,595
Engineering industries	1	Lattakia	Aluminum	General company for Aluminum industries	17,000	17,000	0	0	300	-	300	5,100	5,100	5,100	0	0
	2	Aleppo	Cables	Aleppo cables manufacturing company	270,325	270,325	0	0	0	-	38	10,272	0	0	0	0
	3	Hama	Iron and steel	General company of iron and steel products	3,260,000	3,260,000	0	0	0	-	1,400	4,564,000	0	0	0	0
	4	Lattakia	Wood	The Arab company for wood industry	1,500	0	500	A 1,000	22,000	17,600	22,000	33,000	30,800	0	8,800	22,000
	5	Lattakia	Electric engines	The General company for electric engines	46,771	0	0	46,771	110	-	110	5,145	5,145	0	0	5,145
	6	Aleppo	Battery and Liquid gas	The Syrian company for batteries and liquid gases	170,674	170,674	0	0	0	-	2,700	460,819	0	0	0	0
	7	Damascus	Electronic	The Syrian Arab company for electronic industries " Syronics" (Al kaboun)	48,500	48,500	0	0	0	-	110	5,335	0	0	0	0
	8	Rural Damascus	Matches and pressed wood	The general company for matches and pressed wood industries	46,000	23,000	0	23,000	22,000	-	22,000	1,012,000	1,012,000	506,000	0	506,000
	9	Rural Damascus	Cables	the General company for cables industries in Damascus	210,314	0	0	210,314	38	-	38	7,992	7,992	0	0	7,992
	10	Rural Damascus	Iron	the General company for iron industries " Barada "	21,000	0	21,000	A 0	1,400	1,120	1,400	29,400	23,520	0	23,520	0
	11	Damascus	Battery	dry batteries (Alkaline) company (Al Kadam- Damascus)	1,550	1,550	0	0	0	-	2,700	4,185	0	0	0	0
	12	Damascus	Nonferrous metal	the General company for transmuted industries (Housh-Blas)	3,000	3,000	0	0	0	-	38	114	0	0	0	0
	13	Damascus	Metallic constructions	metallic constructions	916,822	916,822	0	0	0	-	1,400	1,283,550	0	0	0	0
Chemical industries	1	Rural Damascus	Medical	the medical company Thameco	300	300	0	0	1,200	-	1,200	360	360	360	0	0
	2	Rural Damascus	Detergent	the detergents company	40,000	40,000	0	0	3,800	-	3,800	152,000	152,000	152,000	0	0
	3	Rural Damascus	Shoes	the shoes factory	79,704	0	0	79,704	38	-	38	3,029	3,029	0	0	3,029
	4	Rural Damascus	Painting	the paintings company	6,000	0	0	6,000	3,400	-	3,400	20,400	20,400	0	0	20,400
	5	Rural Damascus	Glass	Damascus glass industries	10,000	10,000	0	0	19	-	19	190	190	190	0	0
	6	Hama	Tyres	the tyres company	185,000	0	180,000	A 5,000	0	20	23	4,218	3,714	0	3,600	114
	7	Aleppo	Glass	Aleppo glass company	7,600	7,600	0	0	0	-	19	144	0	0	0	0
	8	Aleppo	Plastic	Aleppo plastic company	24,388	24,388	0	0	0	-	38	927	0	0	0	0
	9	Aleppo	Tannery	Aleppo tannery company	62,830	0	0	62,830	0	-	5,100	320,433	320,433	0	0	320,433
	10	Deir-ez-Zor	Paper	The paper company	4,270,000	0	4,220,000	A 50,000	1,700	1,360	1,700	7,259,000	5,824,200	0	5,739,200	85,000
	11	Rural Damascus	Tannery	Damascus tannery company	250,500	0	250,000	A 500	5,100	4,080	5,100	1,277,550	1,022,550	0	1,020,000	2,550
	12	Rural Damascus	Rubber	Al Ahlyiah rubber industries	55,200	0	0	55,200	23	-	23	1,259	1,259	0	0	1,259
	13	Homs	Fertilizer	the General company of fertilizers	575	0	0	575	610	-	610	351	351	0	0	351
Total					22,455,499	7,492,025	8,724,268	6,239,207	-	-	-	44,539,700	25,347,227	3,363,275	10,377,638	11,606,314
(upper: m3/year, lower: m3/day as 300 operation day /year)					74,852	24,973	29,081	20,797	-	-	-	148,466	84,491	11,211	34,592	38,688

Treatment method A: No detail mention or sedimentation process
B: septic tank
C: Stabilization pond

Table A8.3.4 (3) Estimated pollution load (public sector: SS)

Type of industry	No.	Governorate	Production Items	Water Quality (SS mg/l)				Pollution Load (kg/year)				
				(A)	(B)		(C)	Generation	Dischraged Pollution Load			
									Total	(A)	(B)	(C)
Tobacco industries	1	Damascus	Tobacco	0	-	1	170	1,030	0	0	0	0
	2	Damascus	Tobacco	0	-	1	170	1,705	0	0	0	0
	3	Aleppo	Tobacco	0	-	1	170	2,380	0	0	0	0
	4	Lattakia	Tobacco	170	-	1	170	1,705	1,705	1,705	0	0
Food industies	1	Lattakia	Beer	310	-	2	310	2,790	2,790	2,790	0	0
	2	Rural Damascus	Beer	310	200	2	310	2,790	1,965	465	1,500	0
	3	Aleppo	Oil	0	-	3	2,600	210,564	0	0	0	0
	4	Rural Damascus	Oil	2,600	-	3	2,600	62,400	62,400	0	0	62,400
	5	Hama	Oil	0	-	3	2,600	85,800	0	0	0	0
	6	Damascus	Biscuits	0	-	6	610	183	0	0	0	0
	7	Damascus	Biscuits	0	-	6	610	366	0	0	0	0
	8	Aleppo	Sterilized milk, Biscuits	0	-	10	470	13,630	0	0	0	0
	9	Sweida	Arak	20	-	7	20	12,010	12,010	0	0	12,010
	10	Homs	Arak	20	-	7	20	189	189	0	0	189
	11	Damascus	Agricultural industries	0	-	8	65	2,600	0	0	0	0
	12	Hassakeh	Stored good	65	-	8	65	1,487	1,487	0	0	1,487
	13	Deir-ez-Zor	Stored good	65	-	8	65	3,575	3,575	3,575	0	0
	14	Idleb	Stored good	65	-	8	65	390	390	390	0	0
	15	Tartous	Stored good	65	-	8	65	2,280	2,280	0	0	2,280
	16	Rural Damascus	Stored good	65	-	8	65	3,348	3,348	3,348	0	0
	17	Damascus	macaroni and vermicelli	0	-	9	330	66	0	0	0	0
	18	Homs	Dairy	150	-	11	150	1,125	1,125	1,125	0	0
	19	Rural Damascus	Dairy	150	-	11	150	17,250	17,250	17,250	0	0
Sugar industries	1	Homs	Sugar	340	-	12	340	19,295	19,295	19,295	0	0
	2	Homs	Sugar	340	-	12	340	13,651	13,651	13,651	0	0
	3	Homs	Sugar	340	-	12	340	30,923	30,923	30,923	0	0
	4	Homs	Sugar	340	-	12	340	4,709	4,709	4,709	0	0
	5	Homs	Sugar	340	-	12	340	-	0	0	0	0
	6	Homs	Sugar	340	-	12	340	-	0	0	0	0
	7	Homs	Sugar	340	-	12	340	11,305	11,305	11,305	0	0
	8	Deir-ez-Zor	Sugar	340	200	12	340	3,502	3,460	3,400	60	0
	9	Raqqa	Sugar	340	120	12	340	1,183,200	424,200	0	414,000	10,200
	10	Homs	Sugar	340	140	12	340	510	210	0	210	0
	11	Idleb	Sugar	340	-	12	340	657,267	657,267	0	0	657,267
	12	Hama	Sugar	0	300	12	340	81,600	74,000	0	57,000	17,000
	13	Aleppo	Sugar	0	-	12	340	111,860	0	0	0	0
	14	Rural Damascus	Sugar	340	-	12	340	69,700	69,700	0	0	69,700
	15	Rural Damascus	Sugar	340	-	12	340	43,860	43,860	43,860	0	0
Textile industries	1	Damascus	Textile	0	-	14	1,800	730,800	730,800	0	0	730,800
	2	Damascus	Textile	0	-	14	1,800	443,700	435,600	0	0	435,600
	3	Damascus	Textile	0	-	14	1,800	559,800	0	0	0	0
	4	Rural Damascus	Textile	1,800	-	14	1,800	1,264,601	1,264,601	0	0	1,264,601
	5	Rural Damascus	Textile	1,800	1,260	14	1,800	182,700	128,700	2,700	126,000	0
	6	Damascus	Textile	0	-	14	1,800	15,840	0	0	0	0
	7	Rural Damascus	Textile	1,800	-	14	1,800	360,000	360,000	180,000	0	180,000
	8	Rural Damascus	Textile	1,800	-	14	1,800	20,700	20,700	0	0	20,700
	9	Homs	Textile	1,800	-	14	1,800	214,200	214,200	214,200	0	0
	10	Homs	Textile	1,800	-	14	1,800	79,420	79,420	79,420	0	0
	11	Hama	Textile	0	-	14	1,800	237,600	0	0	0	0
	12	Hama	Textile	0	-	14	1,800	149,400	0	0	0	0
	13	Aleppo	Textile	0	-	14	1,800	158,400	0	0	0	0
	14	Aleppo	Textile	0	-	14	1,800	94,928	0	0	0	0
	15	Aleppo	Textile	0	-	14	1,800	27,360	0	0	0	0
	16	Aleppo	Textile	0	-	14	1,800	21,600	21,600	0	0	21,600
	17	Aleppo	Textile	0	-	14	1,800	57,600	0	0	0	0
	18	Aleppo	Textile	0	-	14	1,800	68,130	0	0	0	0
	19	Idleb	Textile	1,800	-	14	1,800	95,400	95,400	95,400	0	0
	20	Idleb	Textile	1,800	-	14	1,800	86,400	86,400	86,400	0	0
	21	Lattakia	Textile	1,800	-	14	1,800	108,000	108,000	108,000	0	0
	22	Lattakia	Textile	1,800	1,260	14	1,800	546,242	382,370	0	382,370	0
	23	Aleppo	Textile	0	-	14	1,800	531,360	0	0	0	0
	24	Deir-ez-Zor	Textile	1,800	-	14	1,800	247,953	247,953	0	0	247,953
	25	Hassakeh	Textile	1,800	-	14	1,800	531	531	0	0	531

Type of industry	No.	Governorate	Production Items	Water Quality (SS mg/l)				Pollution Load (kg/year)				
				(A)	(B)		(C)	Generation	Dischraged Pollution Load			
									Total	(A)	(B)	(C)
Cement and construction materials	1	Aleppo	Cement and construction materials	0	-	20	200	7,200	0	0	0	0
	2	Tartous		200	-	20	200	140	140	140	0	0
	3	Aleppo		0	-	20	200	720	0	0	0	0
				0	-	20	200	-	0	0	0	0
				0	-	20	200	-	0	0	0	0
				0	-	20	200	-	0	0	0	0
	4	Rural Damascus		200	-	20	200	65,194	65,194	0	0	65,194
	5	Hama		0	-	20	200	104,000	104,000	0	0	104,000
	6	Hama		0	-	20	200	9,979	9,979	0	0	9,979
	7	Damascus		0	-	20	200	2,000	2,000	0	0	2,000
	8	Aleppo		0	-	20	200	27,033	27,033	0	0	27,033
	9	Hama		0	-	20	200	27,033	27,033	0	0	27,033
Engineering industries	1	Lattakia	Aluminum	2,900	-	21	2,900	49,300	49,300	49,300	0	0
	2	Aleppo	Cables	0	-	22	30	8,110	0	0	0	0
	3	Hama	Iron and steel	0	-	23	230	749,800	0	0	0	0
	4	Lattakia	Wood	4,100	2,870	24	4,100	6,150	5,535	0	1,435	4,100
	5	Lattakia	Electric engines	100	-	25	100	4,677	4,677	0	0	4,677
	6	Aleppo	Battery and Liquid gas	0	-	27	150	25,601	0	0	0	0
	7	Damascus	Electronic	0	-	25	100	4,850	0	0	0	0
	8	Rural Damascus	Matches and pressed wood	4,100	-	24	4,100	188,600	188,600	94,300	0	94,300
	9	Rural Damascus	Cables	30	-	22	30	6,309	6,309	0	0	6,309
	10	Rural Damascus	Iron	230	160	23	230	4,830	3,360	0	3,360	0
	11	Damascus	Battery	0	-	27	150	233	0	0	0	0
	12	Damascus	Nonferrous metal	0	-	28	30	90	0	0	0	0
	13	Damascus	Metallic constructions	0	-	23	230	210,869	0	0	0	0
Chemical industries	1	Rural Damascus	Medical	160	-	29	160	48	48	48	0	0
	2	Rural Damascus	Detergent	1,200	-	43	1,200	48,000	48,000	48,000	0	0
	3	Rural Damascus	Shoes	20	-	30	20	1,594	1,594	0	0	1,594
	4	Rural Damascus	Painting	270	-	31	270	1,620	1,620	0	0	1,620
	5	Rural Damascus	Glass	100	-	32	100	1,000	1,000	1,000	0	0
	6	Hama	Tyres	0	40	33	50	9,250	7,450	0	7,200	250
	7	Aleppo	Glass	0	-	32	100	760	0	0	0	0
	8	Aleppo	Plastic	0	-	34	100	2,439	0	0	0	0
	9	Aleppo	Tannery	0	-	36	820	51,521	51,521	0	0	51,521
	10	Deir-ez-Zor	Paper	1,600	1,120	35	1,600	6,832,000	4,806,400	0	4,726,400	80,000
	11	Rural Damascus	Tannery	820	570	36	820	205,410	142,910	0	142,500	410
	12	Rural Damascus	Rubber	50	-	33	50	2,760	2,760	0	0	2,760
	13	Homs	Fertilizer	78	-	38	78	45	45	0	0	45
Total				-	-		-	17,622,875	11,195,877	1,116,699	5,862,035	4,217,143
(upper: m3/year, lower: m3/day as 300 operation day /year)				-	-		-	58,743	37,319	3,722	19,540	14,057

Treatment method A: No detail mention or sedimentation process
B: septic tank
C: Stabilization pond

Table A8.3.4 (4) Estimated pollution load (public sector: T-N)

Type of industry	No.	Governorate	Production Items	Water Quality (T-N mg/l)			Pollution Load (kg/year)				
				(A)	(B)	(C)	Generation	Dischraged Pollution Load			
								Total	(A)	(B)	(C)
Tobacco industries	1	Damascus	Tobacco	0	-	5.50	33	0	0	0	0
	2	Damascus	Tobacco	0	-	5.50	55	0	0	0	0
	3	Aleppo	Tobacco	0	-	5.50	77	0	0	0	0
	4	Lattakia	Tobacco	6	-	5.50	55	55	55	0	0
Food industies	1	Lattakia	Beer	27	-	26.9	242	242	242	0	0
	2	Rural Damascus	Beer	27	21.5	26.9	242	201	40	161	0
	3	Aleppo	Oil	0	-	30.0	2,430	0	0	0	0
	4	Rural Damascus	Oil	30	-	30.0	720	720	0	0	720
	5	Hama	Oil	0	-	30.0	990	0	0	0	0
	6	Damascus	Biscuits	0	-	35.0	11	0	0	0	0
	7	Damascus	Biscuits	0	-	35.0	21	0	0	0	0
	8	Aleppo	Sterilized milk, Biscuits	0	-	30.8	893	0	0	0	0
	9	Sweida	Arak	0	-	0.462	277	277	0	0	277
	10	Homs	Arak	0	-	0.462	4	4	0	0	4
	11	Damascus	Agricultural industries	0	-	2.62	105	0	0	0	0
	12	Hassakeh	Stored good	3	-	2.62	60	60	0	0	60
	13	Deir-ez-Zor	Stored good	3	-	2.62	144	144	144	0	0
	14	Idleb	Stored good	3	-	2.62	16	16	16	0	0
	15	Tartous	Stored good	3	-	2.62	92	92	0	0	92
	16	Rural Damascus	Stored good	3	-	2.62	135	135	135	0	0
	17	Damascus	macaroni and vermicelli	0	-	30.0	6	0	0	0	0
	18	Homs	Dairy	4	-	3.85	29	29	29	0	0
	19	Rural Damascus	Dairy	4	-	3.85	443	443	443	0	0
Sugar industries	1	Homs	Sugar	25	-	25.0	1,419	1,419	1,419	0	0
	2	Homs	Sugar	25	-	25.0	1,004	1,004	1,004	0	0
	3	Homs	Sugar	25	-	25.0	2,274	2,274	2,274	0	0
	4	Homs	Sugar	25	-	25.0	346	346	346	0	0
	5	Homs	Sugar	25	-	25.0	-	0	0	0	0
	6	Homs	Sugar	25	-	25.0	-	0	0	0	0
	7	Homs	Sugar	25	-	25.0	831	831	831	0	0
	8	Deir-ez-Zor	Sugar	25	20.0	25.0	258	256	250	6	0
	9	Raqqa	Sugar	25	8.80	25.0	87,000	31,110	0	30,360	750
	10	Homs	Sugar	25	17.5	25.0	38	26	0	26	0
	11	Idleb	Sugar	25	-	25.0	48,328	48,328	0	0	48,328
	12	Hama	Sugar	0	20.0	25.0	6,000	5,050	0	3,800	1,250
	13	Aleppo	Sugar	0	-	25.0	8,225	0	0	0	0
	14	Rural Damascus	Sugar	25	-	25.0	5,125	5,125	0	0	5,125
	15	Rural Damascus	Sugar	25	-	25.0	3,225	3,225	3,225	0	0
Textile industries	1	Damascus	Textile	0	-	75.5	30,653	30,653	0	0	30,653
	2	Damascus	Textile	0	-	75.5	18,611	18,271	0	0	18,271
	3	Damascus	Textile	0	-	75.5	23,481	0	0	0	0
	4	Rural Damascus	Textile	76	-	75.5	53,043	53,043	0	0	53,043
	5	Rural Damascus	Textile	76	60.4	75.5	7,663	6,153	113	6,040	0
	6	Damascus	Textile	0	-	75.5	664	0	0	0	0
	7	Rural Damascus	Textile	76	-	75.5	15,100	15,100	7,550	0	7,550
	8	Rural Damascus	Textile	76	-	75.5	868	868	0	0	868
	9	Homs	Textile	76	-	75.5	8,985	8,985	8,985	0	0
	10	Homs	Textile	76	-	75.5	3,331	3,331	3,331	0	0
	11	Hama	Textile	0	-	75.5	9,966	0	0	0	0
	12	Hama	Textile	0	-	75.5	6,267	0	0	0	0
	13	Aleppo	Textile	0	-	75.5	6,644	0	0	0	0
	14	Aleppo	Textile	0	-	75.5	3,982	0	0	0	0
	15	Aleppo	Textile	0	-	75.5	1,148	0	0	0	0
	16	Aleppo	Textile	0	-	75.5	906	906	0	0	906
	17	Aleppo	Textile	0	-	75.5	2,416	0	0	0	0
	18	Aleppo	Textile	0	-	75.5	2,858	0	0	0	0
	19	Idleb	Textile	76	-	75.5	4,002	4,002	4,002	0	0
	20	Idleb	Textile	76	-	75.5	3,624	3,624	3,624	0	0
	21	Lattakia	Textile	76	-	75.5	4,530	4,530	4,530	0	0
	22	Lattakia	Textile	76	60.4	75.5	22,912	18,329	0	18,329	0
	23	Aleppo	Textile	0	-	75.5	22,288	0	0	0	0
	24	Deir-ez-Zor	Textile	76	-	75.5	10,400	10,400	0	0	10,400
	25	Hassakeh	Textile	76	-	75.5	22	22	0	0	22

Type of industry	No.	Governorate	Production Items	Water Quality (T-N mg/l)			Pollution Load (kg/year)				
				(A)	(B)	(C)	Generation	Dischraged Pollution Load			
								Total	(A)	(B)	(C)
Cement and construction materials	1	Aleppo	Cement and construction materials	0	-	0	-	0	0	0	0
	2	Tartous		0	-	0	-	0	0	0	0
	3	Aleppo		0	-	0	-	0	0	0	0
				0	-	0	-	0	0	0	0
				0	-	0	-	0	0	0	0
				0	-	0	-	0	0	0	0
	4	Rural Damascus		0	-	0	-	0	0	0	0
	5	Hama		0	-	0	-	0	0	0	0
	6	Hama		0	-	0	-	0	0	0	0
	7	Damascus		0	-	0	-	0	0	0	0
	8	Aleppo		0	-	0	-	0	0	0	0
	9	Hama		0	-	0	-	0	0	0	0
Engineering industries	1	Lattakia	Aluminum	58	-	57.6	979	979	979	0	0
	2	Aleppo	Cables	0	-	-	-	0	0	0	0
	3	Hama	Iron and steel	0	-	7.50	24,450	0	0	0	0
	4	Lattakia	Wood	1	1.00	1.25	2	2	0	1	1
	5	Lattakia	Electric engines	0	-	0	-	0	0	0	0
	6	Aleppo	Battery and Liquid gas	0	-	27.0	4,608	0	0	0	0
	7	Damascus	Electronic	0	-	0	-	0	0	0	0
	8	Rural Damascus	Matches and pressed wood	1	-	1.25	58	58	29	0	29
	9	Rural Damascus	Cables	0	-	0	-	0	0	0	0
	10	Rural Damascus	Iron	8	6.00	7.50	158	126	0	126	0
	11	Damascus	Battery	0	-	27.0	42	0	0	0	0
	12	Damascus	Nonferrous metal	0	-	0	-	0	0	0	0
	13	Damascus	Metallic constructions	0	-	7.50	6,876	0	0	0	0
Chemical industries	1	Rural Damascus	Medical	30	-	30.0	9	9	9	0	0
	2	Rural Damascus	Detergent	6	-	5.80	232	232	232	0	0
	3	Rural Damascus	Shoes	30	-	30.0	2,391	2,391	0	0	2,391
	4	Rural Damascus	Painting	30	-	29.6	178	178	0	0	178
	5	Rural Damascus	Glass	0	-	0	-	0	0	0	0
	6	Hama	Tyres	0	24.0	30.0	5,550	4,470	0	4,320	150
	7	Aleppo	Glass	0	-	0	-	0	0	0	0
	8	Aleppo	Plastic	0	-	30.0	732	0	0	0	0
	9	Aleppo	Tannery	0	-	222	13,948	13,948	0	0	13,948
	10	Deir-ez-Zor	Paper	4	2.98	3.72	15,884	12,762	0	12,576	186
	11	Rural Damascus	Tannery	222	178	222	55,611	44,611	0	44,500	111
	12	Rural Damascus	Rubber	30	-	30.0	1,656	1,656	0	0	1,656
	13	Homs	Fertilizer	39	-	38.6	22	22	0	0	22
Total				-	-	-	568,903	361,073	43,837	120,245	196,991
(upper: m3/year, lower: m3/day as 300 operation day /year)				-	-	-	1,896	1,204	146	401	657

Treatment method A: No detail mention or sedimentation process
B: septic tank
C: Stabilization pond

Table A8.3.4 (5) Estimated pollution load (public sector: T-P)

Type of industry	No.	Governorate	Production Items	Water Quality (T-P mg/l)			Pollution Load (kg/year)				
				(A)	(B)	(C)	Generation	Dischraged Pollution Load			
								Total	(A)	(B)	(C)
Tobacco industries	1	Damascus	Tobacco	0	-	2.50	15	0	0	0	0
	2	Damascus	Tobacco	0	-	2.50	25	0	0	0	0
	3	Aleppo	Tobacco	0	-	2.50	35	0	0	0	0
	4	Lattakia	Tobacco	3	-	2.50	25	25	25	0	0
Food industies	1	Lattakia	Beer	31	-	30.8	277	277	277	0	0
	2	Rural Damascus	Beer	31	24.6	30.8	277	231	46	185	0
	3	Aleppo	Oil	0	-	15.0	1,215	0	0	0	0
	4	Rural Damascus	Oil	15	-	15.0	360	360	0	0	360
	5	Hama	Oil	0	-	15.0	495	0	0	0	0
	6	Damascus	Biscuits	0	-	15.0	5	0	0	0	0
	7	Damascus	Biscuits	0	-	15.0	9	0	0	0	0
	8	Aleppo	Sterilized milk, Biscuits	0	-	30.8	893	0	0	0	0
	9	Sweida	Arak	0	-	0.169	101	101	0	0	101
	10	Homs	Arak	0	-	0.169	2	2	0	0	2
	11	Damascus	Agricultural industries	0	-	1.23	49	0	0	0	0
	12	Hassakeh	Stored good	1	-	1.23	28	28	0	0	28
	13	Deir-ez-Zor	Stored good	1	-	1.23	68	68	68	0	0
	14	Idleb	Stored good	1	-	1.23	7	7	7	0	0
	15	Tartous	Stored good	1	-	1.23	43	43	0	0	43
	16	Rural Damascus	Stored good	1	-	1.23	63	63	63	0	0
	17	Damascus	macaroni and vermicelli	0	-	15.0	3	0	0	0	0
	18	Homs	Dairy	4	-	3.85	29	29	29	0	0
	19	Rural Damascus	Dairy	4	-	3.85	443	443	443	0	0
Sugar industries	1	Homs	Sugar	6	-	5.50	312	312	312	0	0
	2	Homs	Sugar	6	-	5.50	221	221	221	0	0
	3	Homs	Sugar	6	-	5.50	500	500	500	0	0
	4	Homs	Sugar	6	-	5.50	76	76	76	0	0
	5	Homs	Sugar	6	-	5.50	-	0	0	0	0
	6	Homs	Sugar	6	-	5.50	-	0	0	0	0
	7	Homs	Sugar	6	-	5.50	183	183	183	0	0
	8	Deir-ez-Zor	Sugar	6	4.40	5.50	57	56	55	1	0
	9	Raqqa	Sugar	6	1.93	5.50	19,140	6,824	0	6,659	165
	10	Homs	Sugar	6	3.85	5.50	8	6	0	6	0
	11	Idleb	Sugar	6	-	5.50	10,632	10,632	0	0	10,632
	12	Hama	Sugar	0	4.40	5.50	1,320	1,111	0	836	275
	13	Aleppo	Sugar	0	-	5.50	1,810	0	0	0	0
	14	Rural Damascus	Sugar	6	-	5.50	1,128	1,128	0	0	1,128
	15	Rural Damascus	Sugar	6	-	5.50	710	710	710	0	0
Textile industries	1	Damascus	Textile	0	-	10.4	4,222	4,222	0	0	4,222
	2	Damascus	Textile	0	-	10.4	2,564	2,517	0	0	2,517
	3	Damascus	Textile	0	-	10.4	3,234	0	0	0	0
	4	Rural Damascus	Textile	10	-	10.4	7,307	7,307	0	0	7,307
	5	Rural Damascus	Textile	10	8.32	10.4	1,056	848	16	832	0
	6	Damascus	Textile	0	-	10.4	92	0	0	0	0
	7	Rural Damascus	Textile	10	-	10.4	2,080	2,080	1,040	0	1,040
	8	Rural Damascus	Textile	10	-	10.4	120	120	0	0	120
	9	Homs	Textile	10	-	10.4	1,238	1,238	1,238	0	0
	10	Homs	Textile	10	-	10.4	459	459	459	0	0
	11	Hama	Textile	0	-	10.4	1,373	0	0	0	0
	12	Hama	Textile	0	-	10.4	863	0	0	0	0
	13	Aleppo	Textile	0	-	10.4	915	0	0	0	0
	14	Aleppo	Textile	0	-	10.4	548	0	0	0	0
	15	Aleppo	Textile	0	-	10.4	158	0	0	0	0
	16	Aleppo	Textile	0	-	10.4	125	125	0	0	125
	17	Aleppo	Textile	0	-	10.4	333	0	0	0	0
	18	Aleppo	Textile	0	-	10.4	394	0	0	0	0
	19	Idleb	Textile	10	-	10.4	551	551	551	0	0
	20	Idleb	Textile	10	-	10.4	499	499	499	0	0
	21	Lattakia	Textile	10	-	10.4	624	624	624	0	0
	22	Lattakia	Textile	10	8.32	10.4	3,156	2,525	0	2,525	0
	23	Aleppo	Textile	0	-	10.4	3,070	0	0	0	0
	24	Deir-ez-Zor	Textile	10	-	10.4	1,433	1,433	0	0	1,433
	25	Hassakeh	Textile	10	-	10.4	3	3	0	0	3

Type of industry	No.	Governorate	Production Items	Water Quality (T-P mg/l)			Pollution Load (kg/year)				
				(A)	(B)	(C)	Generation	Dischraged Pollution Load			
								Total	(A)	(B)	(C)
Cement and construction materials	1	Aleppo	Cement and construction materials	0	-	0	-	0	0	0	0
	2	Tartous		0	-	0	-	0	0	0	0
	3	Aleppo		0	-	0	-	0	0	0	0
				0	-	0	-	0	0	0	0
				0	-	0	-	0	0	0	0
				0	-	0	-	0	0	0	0
	4	Rural Damascus		0	-	0	-	0	0	0	0
	5	Hama		0	-	0	-	0	0	0	0
	6	Hama		0	-	0	-	0	0	0	0
	7	Damascus		0	-	0	-	0	0	0	0
	8	Aleppo		0	-	0	-	0	0	0	0
	9	Hama		0	-	0	-	0	0	0	0
Engineering industries	1	Lattakia	Aluminum	1	-	1.38	23	23	23	0	0
	2	Aleppo	Cables	0	-	0	-	0	0	0	0
	3	Hama	Iron and steel	0	-	15.0	48,900	0	0	0	0
	4	Lattakia	Wood	4	3.20	4.00	6	6	0	2	4
	5	Lattakia	Electric engines	0	-	0	-	0	0	0	0
	6	Aleppo	Battery and Liquid gas	0	-	0.50	85	0	0	0	0
	7	Damascus	Electronic	0	-	0	-	0	0	0	0
	8	Rural Damascus	Matches and pressed wood	4	-	4.00	184	184	92	0	92
	9	Rural Damascus	Cables	0	-	0	-	0	0	0	0
	10	Rural Damascus	Iron	15	12.0	15.0	315	252	0	252	0
	11	Damascus	Battery	0	-	0.500	1	0	0	0	0
	12	Damascus	Nonferrous metal	0	-	0	-	0	0	0	0
	13	Damascus	Metallic constructions	0	-	15.0	13,752	0	0	0	0
Chemical industries	1	Rural Damascus	Medical	15	-	15.0	5	5	5	0	0
	2	Rural Damascus	Detergent	150	-	150	6,000	6,000	6,000	0	0
	3	Rural Damascus	Shoes	15	-	15.0	1,196	1,196	0	0	1,196
	4	Rural Damascus	Painting	44	-	44.2	265	265	0	0	265
	5	Rural Damascus	Glass	0	-	0	-	0	0	0	0
	6	Hama	Tyres	0	12.0	15.0	2,775	2,235	0	2,160	75
	7	Aleppo	Glass	0	-	0	-	0	0	0	0
	8	Aleppo	Plastic	0	-	15.0	366	0	0	0	0
	9	Aleppo	Tannery	0	-	45.1	2,834	2,834	0	0	2,834
	10	Deir-ez-Zor	Paper	27	21.7	27.1	115,717	92,929	0	91,574	1,355
	11	Rural Damascus	Tannery	45	36.1	45.1	11,298	9,048	0	9,025	23
	12	Rural Damascus	Rubber	15	-	15.0	828	828	0	0	828
	13	Homs	Fertilizer	7	-	6.95	4	4	0	0	4
Total				-	-	-	281,535	163,796	13,562	114,057	36,177
(upper: m3/year, lower: m3/day as 300 operation day /year)				-	-	-	938	546	45	380	121

Treatment method A: No detail mention or sedimentation process
B: septic tank
C: Stabilization pond

Table A8.3.5 Production amount of private factory

Items	Amount of Production (2004)	unit	Items	Amount of Production (2004)	unit
Bread	2,411	Ton x 1,000	Sport & Rubber Shoes	2,854	P x1,000
Vegetable oil	69,031	Ton	Plastic Shoos	1,220	P x1,000
Olive oil	201,964	Ton	Tanned hides box	499	F x2,000
Soap	18,324	Ton	Capsules	521,058	C x1,000
Variant Canned Foods	15,898	Ton	Tablets	709,349	Ton x 1,000
Pasteurized Milk	1,502	Ton	Ampols	208,141	Ton x 1,000
Biscuits	17,801	Ton	Suppositories	228,122	S x1,000
Chocolate	8,023	Ton	Powdered Cleaner	17,501	Ton
Macaroni & noodles	11,000	Ton	Liquid Cleaner	24,376	Ton
Gaseous Beverages	155,348	L x 1,000	Paints	28,864	Ton
Arak	837	L x 1,000	Metal pipes	35,750	Ton
Other Alcoholic Beverages	2,268	L x 1,000	Ply wood	48,432	m^3
Fruit Juice	8,689	L x 1,000	Panolatteh Wood	5,930	m^3
Alcohol	384	Ton	Compressed Wood	5,052	m^3
Cotton Yarns	28,115	Ton	Electrical Transformers	7,522	P
Textiles Yarns	11,107	Ton	Dry Batteries	145	P x1,000
Cotton Textiles	18,175	Ton	Liquid Batteries	986	P x1,000
Woolen Textile	9,298	Ton	Refrigerators	105,683	P
Synthetic Textiles	31,186	Ton	Freezers	30,937	P
Silk Textile	40	Ton	Gas cookers & Ovens	62,022	P
Under wear clothes	9,963	D x1,000	Chofs of Aluminum	15,607	Ton
Ready made clothes	87,920	P x1,000	Washing Machines	87,054	P
Tricot	21,884	P x1,000	Electrical Fans	78,520	P
Carpets	4,843	M x2,000	Various Home	77,500	P
Stockings	8,882	D x1,000	Glass & Pottery Products	10,401	Ton
Blankets	473	P x1,000	Ceramic	8,925	M x2,000
Bed Sheets	1,905	P x1,000	Tiles	7,327	P x1,000
Towels & Kaflas	10,104	P x1,000	Wall Tiles	15,780	Ton
Skin Shoes	34,623	P x1,000	Slaughterhouse	2,286,458	head as sheep

Source: Statistical Abstract 2006, Central Bureau of Statistics

Table A8.3.6 Estimated wastewater amount by type of industry (private sector)

Item of Production	Production (Private sector, 2004)	Unit wastewater	Wastewater (m^3/day)		Type of Industry (Code No.)
Olive oil	201,964 Ton	3.30 m^3/ton	2,222	2,222	15141
Bread	2,411 Ton x 1,000	1,015 m^3/ton	8,157		from 15131
Vegetable oil	69,031 Ton	35.400 m^3/ton	8,146		to 15543,
Variant Canned Foods	15,898 Ton	43.0 m^3/ton	2,279		except 15141
Pasteurized Milk	1,502 Ton	2.54 m^3/ton	13		
Biscuits	17,801 Ton	1.015 m^3/ton	60		
Chocolate	8,023 Ton	1.015 m^3/ton	27		
Macaroni & noodles	11,000 Ton	0.183 m^3/ton	7		
Gaseous Beverages	155,348 L x 1,000	2.26 m^3/ton	1,170		
Arak	837 L x 1,000	2.26 m^3/ton	6		
Other Alcoholic Bevera	2,268 L x 1,000	226% m^3/ton	17		
Fruit Juice	8,689 L x 1,000	2.26 m^3/ton	65		
Alcohol	384 Ton	2.26 m^3/ton	3	19,950	
Cotton Yarns	28,115 Ton	11.9 m^3/ton	1,115		from 17111
Textiles Yarns	11,107 Ton	11.9 m^3/ton	441		to 18230
Cotton Textiles	18,175 Ton	11.9 m^3/ton	721		
Woolen Textile	9,298 Ton	11.9 m^3/ton	369		
Synthetic Textiles	31,186 Ton	11.9 m^3/ton	1,237		
Silk Textile	40 Ton	11.9 m^3/ton	2		
Under wear clothes	9,963 D x1,000	696 m^3/x1000 doze	23,114		
Ready made clothes	87,920 P x1,000	12.1 m^3/x1000 piec	3,546		
Tricot	21,884 P x1,000	12.1 m^3/x1000 piec	883		
Carpets	4,843 M x2,000	72.6 m^3/x2000 m	1,172		
Stockings	8,882 D x1,000	696 m^3/x1000 doze	20,606		
Blankets	473 P x1,000	12.1 m^3/x1000 piec	19		
Bed Sheets	1,905 P x1,000	12.1 m^3/x1000 piec	77		
Towels & Kaflas	10,104 P x1,000	12.1 m^3/x1000 piec	408	53,710	
Skin Shoes	34,623 P x1,000	0.435 m^3/x1000 piec	50		from 19111
Sport & Rubber Shoes	2,854 P x1,000	0.435 m^3/x1000 piec	4		to 19250
Plastic Shoos	1,220 P x1,000	0.435 m^3/x1000 piec	2		
Tanned hides box	499 F x2,000	0.870 m^3/x2000 piec	1	57	
Soap	18,324 Ton	35.400 m^3/ton	2,162		from 24111
Capsules	521,058 C x1,000	1.03 m^3/x1,000 C	1,789		to 24310
Tablets	709,349 Ton x 1,000	1.03 m^3/ x1,000 ton	2,435		
Ampols	208,141 Ton x 1,000	1.03 m^3/ x1,000 ton	715		
Suppositories	228,122 S x1,000	1.03 m^3/x1,000 S	783		
Powdered Cleaner	17,501 Ton	1.15 m^3/ton	67		
Liquid Cleaner	24,376 Ton	1.15 m^3/ton	93		
Paints	28,864 Ton	2.54 m^3/ton	244	8,288	
Ply wood	48,432 m^3	0.747 m^3/m^3	121		from 20111
Panolatteh Wood	5,930 m^3	0.747 m^3/m^3	15		to 20295
Compressed Wood	5,052 m^3	0.747 m^3/m^3	13	149	
Electrical Transformers	7,522 P	0.747 m^3/m^3	19		from 29111
Dry Batteries	145 P x1,000	0.969 m^3/x1,000 P	0		to 29393
Liquid Batteries	986 P x1,000	0.969 m^3/x1,000 P	3		
Refrigerators	105,683 P	0.657 m^3/P	231		
Freezers	30,937 P	0.657 m^3/P	68		
Gas cookers & Ovens	62,022 P	0.657 m^3/P	136		
Washing Machines	87,054 P	0.657 m^3/P	191		
Electrical Fans	78,520 P	0.657 m^3/P	172		
Various Home	77,500 P	0.657 m^3/P	170	990	
Metal pipes	35,750 Ton	28.2 m^3/ton	3,361		from 27111
Chofs of Aluminum	15,607 Ton	7.96 m^3/ton	414	3,775	to 27322
Glass & Pottery Produc	10,401 Ton	0.304 m^3/ton	11		from 26111
Ceramic	8,925 M x2,000	0.304	9		to 26999
Tiles	7,327 P x1,000	0.304	7		
Wall Tiles	15,780 Ton	0.304 m^3/ton	16	43	
Slaughterhouse	2,286,458 head as she	0.345 m^3/head	2,629	2,629	from 15111 to 15119
Total	-	-	91,813	91,813	

Table A8.3.7 Estimated pollution load generation (private sector)

Item of Production	Wastewater (m^3/day)	Estimated Wastewater Quality					Estimated Pollution Load (Generation, kg/day)										Type of Industry (Code No.)
		BOD	CODcr	SS	T-N	T-P	BOD		COD_{Cr}		SS		T-N		T-P		
Olive oil	2,222	7,200	60,000	2,800	1,820	1,720	15,998	15,998	133,320	133,320	6,222	6,222	4,044	4,044	3,822	3,822	15141
Bread	8,157	860	3,000	610	35.0	15.0	7,015		24,471		4,976		285		122		from 15131
Vegetable oil	8,146	4,400	11,800	2,600	30.0	15.0	35,842		96,123		21,180		244		122		to 15543,
Variant Canned Foods	2,279	25	920	65	2.62	1.23	57		2,097		148		6		3		except 15141
Pasteurized Milk	13	1,600	2,700	470	30.8	30.8	21		35		6		0		0		
Biscuits	60	860	3,000	610	35.0	15.0	52		180		37		2		1		
Chocolate	27	860	3,000	610	35.0	15.0	23		81		16		1		0		
Macaroni & noodles	7	730	1,000	330	30.0	15.0	5		7		2		0		0		
Gaseous Beverages	1,170	340	1,300	370	30.0	15.0	398		1,521		433		35		18		
Arak	6	22	40	20	0.46	0.17	0		0		0		0		0		
Other Alcoholic Beverages	17	22	40	20	0.46	0.17	0		1		0		0		0		
Fruit Juice	65	340	1,300	370	30.0	15.0	22		85		24		2		1		
Alcohol	3	22	40	20	0.46	0.17	0	43,435	0	124,601	0	26,822	0	575	0	267	
Cotton Yarns	1,115	280	3,600	1,800	75.5	10.4	312		4,014		2,007		84		12		from 17111
Textiles Yarns	441	280	3,600	1,800	75.5	10.4	123		1,588		794		33		5		to 18230
Cotton Textiles	721	280	3,600	1,800	75.5	10.4	202		2,596		1,298		54		7		
Woolen Textile	369	280	3,600	1,800	75.5	10.4	103		1,328		664		28		4		
Synthetic Textiles	1,237	280	3,600	1,800	75.5	10.4	346		4,453		2,227		93		13		
Silk Textile	2	280	3,600	1,800	75.5	10.4	1		7		4		0		0		
Under wear clothes	23,114	280	3,600	1,800	75.5	10.4	6,472		83,210		41,605		1,745		240		
Ready made clothes	3,546	280	3,600	1,800	75.5	10.4	993		12,766		6,383		268		37		
Tricot	883	280	3,600	1,800	75.5	10.4	247		3,179		1,589		67		9		
Carpets	1,172	280	3,600	1,800	75.5	10.4	328		4,219		2,110		88		12		
Stockings	20,606	280	3,600	1,800	75.5	10.4	5,770		74,182		37,091		1,556		214		
Blankets	19	280	3,600	1,800	75.5	10.4	5		68		34		1		0		
Bed Sheets	77	280	3,600	1,800	75.5	10.4	22		277		139		6		1		
Towels & Kaflas	408	280	3,600	1,800	75.5	10.4	114	15,038	1,469	193,356	734	96,679	31	4,054	4	558	
Skin Shoes	50	10	38	20	30.0	15.0	1		2		1		2		1		from 19111
Sport & Rubber Shoes	4	10	38	20	30.0	15.0	0		0		0		0		0		to 19250
Plastic Shoos	2	10	38	20	30.0	15.0	0		0		0		0		0		
Tanned hides box	1	10	38	20	30.0	15.0	0	1	0	2	0	1	0	2	0	1	
Soap	2,162	320	3,800	1,200	8.92	231	692		8,216		2,594		19		499		from 24111
Capsules	1,789	320	1,200	160	30.0	15.0	572		2,147		286		54		27		to 24310
Tablets	2,435	320	1,200	160	30.0	15.0	779		2,922		390		73		37		
Ampols	715	320	1,200	160	30.0	15.0	229		858		114		21		11		
Suppositories	783	30	27	200	0	0	23		21		157		0		0		
Powdered Cleaner	67	320	3,800	1,200	5.80	150	21		255		80		0		10		
Liquid Cleaner	93	320	3,800	1,200	5.80	150	30		353		112		1		14		
Paints	244	310	3,400	270	29.6	44.2	76	2,422	830	15,602	66	3,799	7	175	11	609	
Ply wood	121	3,000	22,000	4,100	1.25	4.00	363		2,662		496		0		0		from 20111
Panolatteh Wood	15	3,000	22,000	4,100	1.25	4.00	45		330		62		0		0		to 20295
Compressed Wood	13	3,000	22,000	4,100	1.25	4.00	39	447	286	3,278	53	611	0	0	0	0	
Electrical Transformers	19	10	110	100	0.0	0.0	0		2		2		0		0		from 29111
Dry Batteries	0	40	2,700	150	27.0	0.50	0		0		0		0		0		to 29393
Liquid Batteries	3	40	2,700	150	27.0	0.50	0		8		0		0		0		
Refrigerators	231	10	110	100	0.0	0.0	2		25		23		0		0		
Freezers	68	10	110	100	0.0	0.0	1		7		7		0		0		
Gas cookers & Ovens	136	10	110	100	0.0	0.0	1		15		14		0		0		
Washing Machines	191	10	110	100	0.0	0.0	2		21		19		0		0		
Electrical Fans	172	10	110	100	0.0	0.0	2		19		17		0		0		
Various Home	170	10	110	100	0.0	0.0	2	10	19	116	17	99	0	0	0	0	
Metal pipes	3,361	360	1,400	230	7.50	15.0	1,210		4,705		773		25		50		from 27111
Chofs of Aluminum	414	53	300	2,900	57.6	1.4	22	1,232	124	4,829	1,201	1,974	24	49	1	51	to 27322
Glass & Pottery Products	11	10	19	100	0.0	0.0	0		0		1		0		0		from 26111
Ceramic	9	10	11	2,700	0.0	0.0	0		0		24		0		0		to 26999
Tiles	7	10	11	2,700	0.0	0.0	0		0		19		0		0		
Wall Tiles	16	10	11	2,700	0.0	0.0	0	0	0	0	43	87	0	0	0	0	
Slaughterhouse	2,629	1,100	14,000	540	65.4	67.8	2,892	2,892	36,806	36,806	1,420	1,420	172	172	178	178	from 15111 to 15119
Total	91,813	-	-	-	-	-	81,475		511,910		137,714		9,071		5,486		

Table A8.3.8 Estimated distribution ratio of pollution load (private sector)

Items	Governorate	Type of Industry (Code)										Total
		15141	from 15131 to 15543, except 15141	from 17111 to 18230	from 19111 to 19250	from 24111 to 24310	from 20111 to 20295	from 29111 to 29393	from 27111 to 27322	from 26111 to 26999	from 15111 to 15119	
Estimated working stuff	Damascus	39	4,371	13,027	2,765	924	3,020	705	819	1,694	309	27,673
	Rural Damascus	102	11,769	19,877	1,512	4,890	6,485	2,537	2,359	7,578	782	57,891
	Dar'aa	140	1,701	1,340	47	241	632	170	143	1,679	264	6,357
	Tartous	1,437	1,449	1,289	53	27	1,947	96	405	1,925	86	8,714
	Lattakia	878	2,154	2,671	54	180	1,940	492	285	1,895	89	10,638
	Deir-ez-Zor	12	1,200	828	71	44	734	95	77	921	24	4,006
	Hassakeh	8	1,413	2,492	39	33	483	185	132	1,073	36	5,894
	Raqqa	-	596	1,233	15	35	455	42	42	629	57	3,104
	Qunetra	-	107	48	-	-	18	-	3	267	15	458
	Sweida	12	792	855	12	90	195	15	45	903	24	2,943
	Homs	102	5,118	5,002	183	962	3,668	513	500	3,735	215	19,998
	Hama	177	4,207	3,351	861	414	2,037	450	648	3,602	327	16,074
	Aleppo	3,732	11,863	60,073	8,775	3,913	9,267	2,275	2,086	6,440	278	108,702
	Idleb	950	3,129	2,592	134	191	1,764	417	101	2,987	228	12,493
	Total	7,589	49,869	114,678	14,521	11,944	32,645	7,992	7,645	35,328	2,734	284,945
Distribution Ratio	Damascus	0.005	0.088	0.114	0.190	0.077	0.093	0.088	0.107	0.048	0.113	-
	Rural Damascus	0.013	0.236	0.173	0.104	0.408	0.199	0.318	0.310	0.214	0.285	-
	Dar'aa	0.018	0.034	0.012	0.003	0.020	0.019	0.021	0.019	0.048	0.097	-
	Tartous	0.189	0.029	0.011	0.004	0.002	0.060	0.012	0.053	0.054	0.031	-
	Lattakia	0.116	0.043	0.023	0.004	0.015	0.059	0.062	0.037	0.054	0.033	-
	Deir-ez-Zor	0.002	0.024	0.007	0.005	0.004	0.022	0.012	0.010	0.026	0.009	-
	Hassakeh	0.001	0.028	0.022	0.003	0.003	0.015	0.023	0.017	0.030	0.013	-
	Raqqa	0.000	0.012	0.011	0.001	0.003	0.014	0.005	0.005	0.018	0.021	-
	Qunetra	0.000	0.002	0.000	0.000	0.000	0.001	0.000	0.000	0.008	0.005	-
	Sweida	0.002	0.016	0.007	0.001	0.008	0.006	0.002	0.006	0.026	0.009	-
	Homs	0.013	0.103	0.044	0.013	0.081	0.112	0.064	0.065	0.106	0.079	-
	Hama	0.023	0.084	0.029	0.059	0.035	0.062	0.056	0.085	0.102	0.120	-
	Aleppo	0.493	0.238	0.524	0.604	0.328	0.284	0.285	0.273	0.181	0.102	-
	Idleb	0.125	0.063	0.023	0.009	0.016	0.054	0.052	0.013	0.085	0.083	-
	Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-

The example of calculation of the number of employees (Damascus)

Type of Industry	Number of Factry by Size of Working Stuff						Estimated number of working stuff					
	1-5 (3)	6-9 (7.5)	10-50 (30)	51-100 (75.5)	more than 100 (150)	Total	Av. =3.0	Av. =7.5	Av. =30	Av. =75.5	Av. =150	Total
15141	3	0	1	0	0	4	9	-	30	-	-	39
from 15131 to 15543, except 15141	917	80	34	0	0	1031	2,751	600	1,020	-	-	4,371
from 17111 to 18230	3,272	212	49	2	0	3535	9,816	1,590	1,470	151	-	13,027
from 19111 to 19250	639	45	17	0	0	701	1,917	338	510	-	-	2,765
from 24111 to 24310	115	13	11	2	0	141	345	98	330	151	-	924
from 20111 to 20295	939	23	1	0	0	963	2,817	173	30	-	-	3,020
from 29111 to 29393	165	4	6	0	0	175	495	30	180	-	-	705
from 27111 to 27322	248	6	1	0	0	255	744	45	30	-	-	819
from 26111 to 26999	442	29	5	0	0	476	1,326	218	150	-	-	1,694
from 15111 to 15119	78	2	2	0	0	82	234	15	60	-	-	309
Total	6,818	414	127	4	0	7,363	20,454	3,107	3,810	302	0	27,673

Number of factories by industrial type and by size of workers (Damascus, 2004)

Code	Type of Industry	Number of Factry by Size of Working Stuff					
		1-5	6-9	10-50	51-100	more than 100	Total
11110	Extracting raw petroleum oils and tarry metals	4	2				6
11120	Raw gas hydrocarbon production		1				1
11210	Services are related to gas and petroleum field				2		2
Type of Industry (11)		4	3	-	2	-	9
13210	Mining Aluminum ores	1					1
13280	Metal ingot	1					1
Type of Industry (13)		2	-	-	-	-	2
14111	Extracting building stones	2					2
14212	Barium and sulfate magnesium	1					1
14291	Jewels extracting	5					5
Type of Industry (14)		8	-	-	-	-	8
15111	Meat slaughter and storing	69					69
15112	Livestock , birds and rabbits slaughter and storing	6	1	1			8
15113	Intestine preparing & storing	3					3
15114	Animal heads storing		1	1			2
15121	Fish productions storing by drying	5					5
15122	Fish productions storing by fuming & saluting	2					2
15131	Vegetables and fruits storing	1					1
15132	Vegetables and fruits juice preparing &storing	1					1
15133	Fruits drying	2					2
15136	Pickles	4		1			5
15141	Olive oil industry	3		1			4
15147	Oils pressing wastes industry	1					1
15210	Pasteurization milk and packing in bottles	1					1
15220	Animal fat and butter	1					1
15231	White cheese	2					2
15260	Ice cream	15		1			16
15270	Dairy and pasteurization it	7	1				8
15311	Seeds grinding	10		1			11
15313	Vegetables grinding	1					1
15314	Grinding other seeds such as bulgur	1					1
15319	Grinding other seeds	1					1
15321	Starch industry	3					3
15329	Other starch industry	1					1
15331	Prepared fodder for pets	3					3
15332	Prepared fodder for farm animals	1					1
15411	Bread industry	180	36	9			225
15412	Pies industry	220	10	2			232
15413	Biscuits	1					1
15414	Cakes industry	29	4				33
15415	Kinds of sweets	25					25
15419	Other bakery products	4					4
15421	Extracting raw sugar of sugarcane	7					7
15422	Extracting raw sugar of red beet	1					1
15424	Drinks industry of sugarcane and red beet	1					1
15425	Molasses produce	1					1
15431	Cocoa	2					2
15432	Chocolate	7	1	1			9
15433	Deserts	22	4	1			27
15434	Candies	12	2	1			15
15435	Arab deserts	117	17	11			145
15436	Salty	159	2	3			164
15437	Halva	8					8
15439	Other kinds (didn't mentioned)	6					6
15441	All kinds of spaghetti	2					2
15442	Dough products	4					4
15491	Coffee toasting and grinding	25					25
15492	Eggs production	2					2
15494	Honey industry	2					2
15496	Spices, mustard and vinegar	8		1			9
15497	ice industry and storing	5	1				6
15499	other industries	3					3
15512	Arak (alcohol)	2					2
15521	wine	2					2
15541	soda water	2	1	2			5
15542	drinks which included flavors	2	1				3
Type of Industry (15)		1,005	82	37	-	-	1,124

Code	Type of Industry	Number of Factry by Size of Working Stuff					
		1-5	6-9	10-50	51-100	more than 100	Total
17111	cotton textile	18	3				21
17112	wool textile	33					33
17114	linen textile	1					1
17115	preparing textile threads	8					8
17116	textiles industry	27	6	3			36
17117	sackcloth textile	6					6
17118	artificial threads textile	11	2				13
17119	natural threads textile	6	1				7
17211	towels cutting out	14	4	3			21
17212	curtains cutting out	70	3	1			74
17213	traveling carpets and bedcover	4					4
17214	tissues	5					5
17215	quilt , pillows , etc	64		1			65
17216	hand embroidery	234	7	2			243
17217	tents & waxed textiles cutting out	15	1				16
17219	other productions related to textiles	27	1	1			29
17221	carpets industry	12					12
17231	robes industry from textile fibers	1					1
17232	threads industry	2					2
17291	ribbons and bands	2					2
17292	ornamentation	1					1
17293	felt industry	1					1
17295	sheets	3					3
17296	covered and painted cloth , mineral threads	2					2
17297	upholstering	221					221
17298	cloaks	11					11
17299	other industries	7	2				9
17310	internal clothes tricot	35	9	3			47
17320	external clothes	310	14	6			330
17330	all kinds of socks	110	12	3			125
17340	tricot of scarf and shawl	25	1				26
17350	ribbons and bands	3					3
17360	tricot productions whitening and dyeing	3					3
17390	other tricot industries	38	2				40
Type of Industry (17)		1,330	68	23	-	-	1,421
18111	kids and men external clothes	1,428	99	16	2		1,545
18112	kids and men internal clothes	72	3	1			76
18121	women external clothes	240	26	4			270
18122	women internal clothes	19	7	4			30
18123	buttonhole and button texture	39	1				40
18131	pajamas and shirts	15	3				18
18133	sport clothes	1					1
18134	belts, socks, pants and gloves	101	3	1			105
18142	hats industry	2					2
18143	hats industry	1					1
18144	head hobbles	16	2				18
18230	artificial furs	8					8
Type of Industry (18)		1,942	144	26	2	-	2,114
19111	tanning	171	13	7			191
19113	leather	12	1				13
19121	suitcases	116	7				123
19122	handbags	88	9	2			99
19123	leather sacks and wallet	3					3
19124	saddle industry	4					4
19129	other leather industries	6					6
19211	men shoes	189	7	5			201
19212	women shoes	10	5	1			16
19213	kids shoes	4	2				6
19214	leather shoes surfaces cutting out	5					5
19215	leather shoes surfaces stitching	15		1			16
19216	sandals & (1) slippers industry	2					2
19230	plastic shoes industry	8	1	1			10
19240	shoes industry from textile materials	2					2
19250	wooden shoes	4					4
Type of Industry (19)		639	45	17	-	-	701

Code	Type of Industry	Number of Factry by Size of Working Stuff					
		1-5	6-9	10-50	51-100	more than 100	Total
20110	raw wood and boards sawing	72	2				74
20120	wood soak industry and chemical treatment	1					1
20211	plated wood, wooden tables and fibrous tables industry	7					7
20212	plated wood, wooden tables and fibrous tables industry	1					1
20221	wood shavings used in building	73	1				74
20222	cutting wood used in building	736	17	1			754
20223	ladders , balconies , and railings industry	3					3
20231	boxes , cans industry	25	1				26
20291	kitchen tools, vessels and lasts industry	5	1				6
20292	cork	1					1
20293	sacks	1					1
20294	frames , wooden holders and hanges industry	10	1				11
20295	other wooden industries	4					4
Type of Industry (20)		939	23	1	-	-	963
21111	paper paste	2					2
21113	making unpainted , painted and other kinds of paper	2	1	1			4
21114	making raw paper to make tissues and aprons	2					2
21115	covering paper	4					4
21119	other paper industries	1					1
21121	waved cartoon	9	1	1			11
21122	vessels of paper & waved cartoon	3					3
21123	paper boxes and sacks	4	2				6
21124	paper sacks industry	2					2
21129	other covering vessels	4					4
21192	envelops and cards	3					3
21193	towels and tissues	1	1				2
21196	wallpaper , printed & engraved paper	1					1
21198	notebooks & paper cut	1	1				2
21199	other paper industries	2					2
Type of Industry (21)		41	6	2	-	-	49
22111	books and school books publishing	20	1	2			23
22120	magazines and newspaper publishing	9	1				10
22191	photos publishing	1					1
22192	post cards publishing	3					3
22211	cards , magazines and newspapers printing	196	23	4			223
22212	stamps ,paper money publishing	2					2
22213	daily notebooks , albums printing	46	7				53
22214	printing by copy machines and copying by computers	16		1			17
22215	recorded and audio means publishing	8					8
22216	plastic printing	6					6
22221	books covering	16	2	1			19
22222	producing printing letters, stones, boards and cylinders	44	5				49
22310	copying tapes which are recorded by computers	1					1
22320	copying soft and hard CDs	10					10
Type of Industry (22)		378	39	8	-	-	425
23221	producing ethane gas	1					1
23222	producing ethane gas	1					1
23235	candles production	1					1
Type of Industry (23)		3	-	-	-	-	3
24111	inorganic and single acids	4					4
24131	plastic making	20	5				25
24132	rubber making	3	2				5
24133	rubber making	4					4
24134	producing glue which is close to rubber	3					3
24211	insecticide			1			1
24215	purifies , and chemical -agricultural productions	1					1
24221	paintings industry	4	1	1			6
24227	printing inks industry	1					1
24231	pharmacist compounds for human use	1	1	4			6
24232	pharmacist compounds for veterinary use	1					1
24233	surgical bandages and threads			1			1
24235	chemical materials which used in pharmacist compounds making	3		1			4
24241	soaps	14	1				15
24243	organic materials	5		1	1		7
24244	shaving materials	3		1			4
24245	perfumes and cosmetic	43	3	1	1		48
24246	mouth cleaning compounds	1					1
24248	candles	3					3
24296	photographic slide and movies	1					1
Type of Industry (24)		115	13	11	2	-	141

Code	Type of Industry	Number of Factry by Size of Working Stuff					
		1-5	6-9	10-50	51-100	more than 100	Total
25111	making & renewing external surfaces of tires	4					4
25113	wheels	1					1
25115	wheels parts	1					1
25117	rebuild and replacing external surfaces of tires	67					67
25191	making boards , slices , sticks of rubbery productions	3					3
25192	tubes and pipes	5					5
25195	clothes	1					1
25196	land cover	1					1
25199	other rubbery industries	6					6
25210	plastic cover	33	4	4			41
25230	healthy tools	2					2
25240	goods cover	24	1				25
25250	domestic tools	8		1			9
25260	building needs	1					1
25280	sponge	10	2				12
25290	clothes and furniture needs	3					3
Type of Industry (25)		170	7	5	-	-	182
26111	glass industry	15		1			16
26112	glass making by different chemical components	1					1
26121	kitchen tools industry	4	2				6
26123	glass making by different chemical components	8					8
26125	making glass fibers including glass wool	1	1				2
26126	non woven textiles , carpets and glass boards	1					1
26127	glass containers (for drinks)	1	2				3
26128	mirror industry	11					11
26129	glass and crystal rinsing	19					19
26911	potteries categories	10	1				11
26912	domestic and dinning table tools	1		1			2
26917	insulated pottery tools	1					1
26921	insulating potteries categories	1					1
26922	making potteries building materials	1					1
26923	potteries categories	1					1
26931	making potteries building materials	5					5
26933	pottery stones and flagstone	1					1
26934	potteries mosaic cubes		1				1
26943	gypsum	6					6
26951	flagstones and mosaic	87	9				96
26952	baked brick	116	9				125
26953	boards and columns	3					3
26954	other categories of cement & gypsum	8					8
26957	categories of cement	1					1
26961	stones cutting anf forming	1					1
26971	marbles sawing & polishing	127	3	3			133
26972	writing & sculpturing on marbles	2					2
26973	marble kitchens industry	1					1
26981	red baked brick industry	2					2
26983	thermal baked brick industry	4	1				5
26991	threads	2					2
Type of Industry (26)		442	29	5	-	-	476
27111	raw metal iron productions	6					6
27113	un polished iron	1					1
27115	iron bars	3					3
27121	boards ,sticks and skewers	5		1			6
27122	digging stickers & skewers	1					1
27123	pipes of iron	4	1				5
27211	raw precious metals	11					11
27212	precious processed metals	2					2
27221	basic metal for copper	5	1				6
27222	basic metal for Aluminum	16					16
27229	non iron basic metal	2					2
27310	iron shaping	36	1				37
27321	aluminum shaping & weaving	126	3				129
27322	pulling other metals	30					30
Type of Industry (27)		248	6	1	-	-	255

Code	Type of Industry	Number of Factry by Size of Working Stuff					
		1-5	6-9	10-50	51-100	more than 100	Total
28111	pieces of metal establishment	4	1				5
28112	advanced making building	7	1				8
28113	metal tools for buildings	693	7	1			701
28121	metal cabinets for gases	11					11
28122	metal vessels & reservoirs	3					3
28131	boilers	3	1				4
28133	soot removing and gas regain equipment	1					1
28910	metals forming	561	7				568
28920	metal treatment & painting	515	7	1			523
28931	metal categories for domestic usage	4	1				5
28932	hand tools for agriculture and wood working	2					2
28933	saws and machines tools	3					3
28934	spare parts	35					35
28935	smithery tools	2					2
28936	hardwares	77	1				78
28991	metal fixing clasps	5	1				6
28992	metal cables	1					1
28993	wires categories	10	1				11
28994	vessels for packing goods	2		1			3
28995	spring except for watches	1					1
28996	metal chandelier	26					26
28997	hollow vessels	6					6
28998	healthy equipment : as bathroom & washing bath	15		1			16
28999	other products as doors and cabinets	9					9
Type of Industry (28)		1,996	28	4	-	-	2,028
29111	frequency motors	2					2
29115	gas turbine	3					3
29116	turbine equipment , boilers	1					1
29121	liquids pumps	4					4
29122	making air and air emptying pumps , other gases	2					2
29123	taps and pipe valves	2					2
29141	ovens and non electrical ovens	1					1
29142	industrial , electrical laboratory heating equipment	1	1				2
29143	fireplaces	3					3
29154	rising machines	1					1
29191	scales	2					2
29193	air conditioning units	24					24
29198	industrial fans	3					3
29211	tractors	2					2
29213	machines used in agriculture	1					1
29217	other machines used in agriculture	2					2
29223	machines for forming metals	2					2
29232	metals rolling mills	1					1
29241	handing over and raising machines to use then under ground	1					1
29252	machines used in cleaning , separating and grinding seeds&vegetables	1					1
29254	machines used in making bakery		1				1
29299	other machines & equipment	12					12
29311	electrical blankets	2					2
29312	refrigerator and freezer	3					3
29313	washing and drying machines	4		2			6
29315	food preparing machines	1					1
29316	other domestic electrical equipment	15					15
29321	water instant heating machines	9					9
29323	heaters and irons	3					3
29324	fans	1					1
29325	kitchens equipment	3	1	1			5
29326	bread toasting	4					4
29327	conditioners	10					10
29391	heaters and fireplaces	33	1	3			37
29392	central heating units	6					6
Type of Industry (29)		165	4	6	-	-	175
30120	hand or electrical writing machines	1					1
30130	copying machines including visual system		1				1
30170	machines help units	1					1
Type of Industry (30)		2	1	-	-	-	3

Code	Type of Industry	Number of Factry by Size of Working Stuff					
		1-5	6-9	10-50	51-100	more than 100	Total
31150	electric converter	1					1
31210	electrical equipment for electric circuit			2			2
31410	cells & batteries which contain manganese dioxide	7					7
31550	lightning equipment	1					1
31570	light marks and signs	38					38
31913	electrical generators	1					1
31914	current interrupter	2					2
31997	electrical equipment	4	1				5
Type of Industry (31)		54	1	2	-	-	57
32130	electronic small groups	1					1
32241	telephones machines	1					1
32243	making Mors keys	25					25
32310	TV receiving equipment	8					8
32330	wireless telephone receiving equipment					1	1
32370	earphones and loudspeaker	2					2
Type of Industry (32)		37	-	-	-	1	38
33111	equipment and tools used in medicine , dentistry	33		1			34
33112	X-rays or alpha-rays equipment		1				1
33113	purifies	1					1
33115	walkingstick , belts and bandages	2					2
33116	artifical teeth , limbs and other organs	147			1		148
33117	furnitures for medicines , surgery and dentistry			1			1
33121	sensitive scales	1					1
33130	operations controling equipment	1		2			3
33213	lenses	1					1
33215	compound optical components	6					6
33216	glasses frame	1					1
33222	photos display machines	1					1
33311	hand and big watches	7					7
Type of Industry (33)		201	1	4	1	-	207
34130	tractor	1					1
34140	bodies which are designed to set on vehicles chassis	4					4
34220	trailer and half trailer	1					1
Type of Industry (34)		6	-	-	-	-	6
35911	motorcycle	2					2
35921	bicycles which are not provided by motors	1					1
35991	handcrafts	1					1
Type of Industry (35)		4	-	-	-	-	4
36110	wooden furnitures	474	12				486
36120	metal furnitures	260	6	4			270
36130	bamboo furnitures	2					2
36140	straw chairs	2					2
36150	furnitures engraving and ornamentation	27					27
36160	making furnitures from other materials	1					1
36170	mattress	152	1				153
36171	furnitures spraying	123					123
36911	jewels of precious metals	187	2				189
36913	pieces of jewels	2		1			3
36916	metal medals and signs	3					3
36919	other industries of precious metals	2					2
36921	odd instruments	8					8
36923	organ and other similar wind instrument	1					1
36931	balls which are able to blow	1					1
36932	sport categories	1					1
36935	hunting and other sport activities needs	1					1
36936	gloves and head covers	1					1
36941	toys	5					5
36942	toys (vehicles 3 wheels)	2					2
36945	electronical toys	6					6
36946	entertainment tools	6					6
36951	dishes , boxes made of mosaic and shells	52					52
36952	shells tables	22		1			23
36953	Oriental masterpiece	139	1				140
36992	typewriter tools	26					26
36994	umbrellas , bottons and lighters	14					14
36996	sweepers	1					1
36999	fake jewels , candles	25	3				28
Type of Industry (36)		1,546	25	6	-	-	1,577

Code	Type of Industry	Number of Factry by Size of Working Stuff					
		1-5	6-9	10-50	51-100	more than 100	Total
37100	recycling of metal wastes and hardwares	1					1
37200	recycling of nonmetallic wastes and hardwares	1					1
Type of Industry (37)		2	-	-	-	-	2
40110	electricity production	1	1				2
40120	electric energy transporting and distribution	1					1
40210	gas production	1					1
40220	fuel gas distribution	4					4
40310	hot water and vapor production and distribution	1					1
Type of Industry (40)		8	1	-	-	-	9
41100	water collection , filteration and distribution	14	2	2			18
Type of Industry (41)		14	2	2	-	-	18
Total		11,301	528	160	7	1	11,997

Source: Ministry of Industry

Table A8.3.9 (1) Estimated pollution load generation (private sector: BOD)

Items		Type of Industry (Code)										Total
		15141	from 15131 to 15543, except 15141	from 17111 to 18230	from 19111 to 19250	from 24111 to 24310	from 20111 to 20295	from 29111 to 29393	from 27111 to 27322	from 26111 to 26999	from 15111 to 15119	
Pollution Load Generation (BOD-kg/day)		15,998	43,435	15,038	1	2,422	447	10	1,232	0	2,892	81,475
Ratio of Distribution	Damascus	0.005	0.088	0.114	0.19	0.077	0.093	0.088	0.107	0.048	0.113	-
	Rural Damascus	0.013	0.236	0.173	0.104	0.408	0.199	0.318	0.31	0.214	0.285	-
	Dar'aa	0.018	0.034	0.012	0.003	0.02	0.019	0.021	0.019	0.048	0.097	-
	Tartous	0.189	0.029	0.011	0.004	0.002	0.06	0.012	0.053	0.054	0.031	-
	Lattakia	0.116	0.043	0.023	0.004	0.015	0.059	0.062	0.037	0.054	0.033	-
	Deir-ez-Zor	0.002	0.024	0.007	0.005	0.004	0.022	0.012	0.01	0.026	0.009	-
	Hassakeh	0.001	0.028	0.022	0.003	0.003	0.015	0.023	0.017	0.03	0.013	-
	Raqqa	0	0.012	0.011	0.001	0.003	0.014	0.005	0.005	0.018	0.021	-
	Qunetra	0	0.002	0	0	0	0.001	0	0	0.008	0.005	-
	Sweida	0.002	0.016	0.007	0.001	0.008	0.006	0.002	0.006	0.026	0.009	-
	Homs	0.013	0.103	0.044	0.013	0.081	0.112	0.064	0.065	0.106	0.079	-
	Hama	0.023	0.084	0.029	0.059	0.035	0.062	0.056	0.085	0.102	0.12	-
	Aleppo	0.493	0.238	0.524	0.604	0.328	0.284	0.285	0.273	0.181	0.102	-
	Idleb	0.125	0.063	0.023	0.009	0.016	0.054	0.052	0.013	0.085	0.083	-
	Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-
Pollution load by Governorate (kg/day)	Damascus	80.0	3,822.3	1,714.3	0.2	186.5	41.6	0.9	131.8	0.0	326.8	6,304.4
	Rural Damascus	208.0	10,250.7	2,601.6	0.1	988.1	89.0	3.2	382.0	0.0	824.3	15,347.0
	Dar'aa	288.0	1,476.8	180.5	0.0	48.4	8.5	0.2	23.4	0.0	280.5	2,306.3
	Tartous	3,023.5	1,259.6	165.4	0.0	4.8	26.8	0.1	65.3	0.0	89.7	4,635.2
	Lattakia	1,855.8	1,867.7	345.9	0.0	36.3	26.4	0.6	45.6	0.0	95.4	4,273.7
	Deir-ez-Zor	32.0	1,042.4	105.3	0.0	9.7	9.8	0.1	12.3	0.0	26.0	1,237.6
	Hassakeh	16.0	1,216.2	330.8	0.0	7.3	6.7	0.2	20.9	0.0	37.6	1,635.7
	Raqqa	0.0	521.2	165.4	0.0	7.3	6.3	0.1	6.2	0.0	60.7	767.2
	Qunetra	0.0	86.9	0.0	0.0	0.0	0.4	0.0	0.0	0.0	14.5	101.8
	Sweida	32.0	695.0	105.3	0.0	19.4	2.7	0.0	7.4	0.0	26.0	887.8
	Homs	208.0	4,473.8	661.7	0.0	196.2	50.1	0.6	80.1	0.0	228.5	5,899.0
	Hama	368.0	3,648.5	436.1	0.1	84.8	27.7	0.6	104.7	0.0	347.0	5,017.5
	Aleppo	7,886.9	10,337.5	7,879.8	0.6	794.4	126.9	2.9	336.3	0.0	295.0	27,660.3
	Idleb	1,999.8	2,736.4	345.9	0.0	38.8	24.1	0.5	16.0	0.0	240.0	5,401.5
	Total	15,998.0	43,435.0	15,038.0	1.0	2,422.0	447.0	10.0	1,232.0	0.0	2,892.0	81,475.0

Table A8.3.9 (2) Estimated pollution load generation (private sector: COD)

Items		Type of Industry (Code)										Total
		15141	from 15131 to 15543, except 15141	from 17111 to 18230	from 19111 to 19250	from 24111 to 24310	from 20111 to 20295	from 29111 to 29393	from 27111 to 27322	from 26111 to 26999	from 15111 to 15119	
Pollution Load Generation (COD-kg/day)		133,320	124,601	193,356	2	15,602	3,278	116	4,829	0	36,806	511,910
Ratio of Distribution	Damascus	0.005	0.088	0.114	0.19	0.077	0.093	0.088	0.107	0.048	0.113	-
	Rural Damascus	0.013	0.236	0.173	0.104	0.408	0.199	0.318	0.31	0.214	0.285	-
	Dar'aa	0.018	0.034	0.012	0.003	0.02	0.019	0.021	0.019	0.048	0.097	-
	Tartous	0.189	0.029	0.011	0.004	0.002	0.06	0.012	0.053	0.054	0.031	-
	Lattakia	0.116	0.043	0.023	0.004	0.015	0.059	0.062	0.037	0.054	0.033	-
	Deir-ez-Zor	0.002	0.024	0.007	0.005	0.004	0.022	0.012	0.01	0.026	0.009	-
	Hassakeh	0.001	0.028	0.022	0.003	0.003	0.015	0.023	0.017	0.03	0.013	-
	Raqqa	0	0.012	0.011	0.001	0.003	0.014	0.005	0.005	0.018	0.021	-
	Qunetra	0	0.002	0	0	0	0.001	0	0	0.008	0.005	-
	Sweida	0.002	0.016	0.007	0.001	0.008	0.006	0.002	0.006	0.026	0.009	-
	Homs	0.013	0.103	0.044	0.013	0.081	0.112	0.064	0.065	0.106	0.079	-
	Hama	0.023	0.084	0.029	0.059	0.035	0.062	0.056	0.085	0.102	0.12	-
	Aleppo	0.493	0.238	0.524	0.604	0.328	0.284	0.285	0.273	0.181	0.102	-
	Idleb	0.125	0.063	0.023	0.009	0.016	0.054	0.052	0.013	0.085	0.083	-
	Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-
Pollution load by Governorate (kg/day)	Damascus	666.6	10,964.9	22,042.6	0.4	1,201.4	304.9	10.2	516.7	0.0	4,159.1	39,866.8
	Rural Damascus	1,733.2	29,405.9	33,450.6	0.2	6,365.6	652.3	36.9	1,496.9	0.0	10,489.6	83,631.2
	Dar'aa	2,399.8	4,236.4	2,320.3	0.0	312.0	62.3	2.4	91.8	0.0	3,570.2	12,995.2
	Tartous	25,197.5	3,613.4	2,126.9	0.0	31.2	196.7	1.4	255.9	0.0	1,141.0	32,564.0
	Lattakia	15,465.1	5,357.8	4,447.2	0.0	234.0	193.4	7.2	178.7	0.0	1,214.6	27,098.0
	Deir-ez-Zor	266.6	2,990.4	1,353.5	0.0	62.4	72.1	1.4	48.3	0.0	331.3	5,126.0
	Hassakeh	133.3	3,488.8	4,253.8	0.0	46.8	49.2	2.7	82.1	0.0	478.5	8,535.2
	Raqqa	0.0	1,495.2	2,126.9	0.0	46.8	45.9	0.6	24.1	0.0	772.9	4,512.4
	Qunetra	0.0	249.2	0.0	0.0	0.0	3.3	0.0	0.0	0.0	184.0	436.5
	Sweida	266.6	1,993.6	1,353.5	0.0	124.8	19.7	0.2	29.0	0.0	331.3	4,118.7
	Homs	1,733.2	12,833.9	8,507.7	0.0	1,263.8	367.1	7.4	313.9	0.0	2,907.7	27,934.7
	Hama	3,066.4	10,466.5	5,607.3	0.1	546.1	203.2	6.5	410.5	0.0	4,416.7	24,723.3
	Aleppo	65,726.7	29,655.1	101,318.5	1.3	5,117.5	930.9	33.1	1,318.3	0.0	3,754.2	207,855.6
	Idleb	16,665.0	7,849.9	4,447.2	0.0	249.6	177.0	6.0	62.8	0.0	3,054.9	32,512.4
	Total	133,320.0	124,601.0	193,356.0	2.0	15,602.0	3,278.0	116.0	4,829.0	0.0	36,806.0	511,910.0

Table A8.3.9 (3) Estimated pollution load generation (private sector: SS)

Items		Type of Industry (Code)										Total
		15141	from 15131 to 15543, except 15141	from 17111 to 18230	from 19111 to 19250	from 24111 to 24310	from 20111 to 20295	from 29111 to 29393	from 27111 to 27322	from 26111 to 26999	from 15111 to 15119	
Pollution Load Generation (SS-kg/day)		6,222	26,822	96,679	1	3,799	611	99	1,974	87	1,420	137,714
Ratio of Distribution	Damascus	0.005	0.088	0.114	0.19	0.077	0.093	0.088	0.107	0.048	0.113	-
	Rural Damascus	0.013	0.236	0.173	0.104	0.408	0.199	0.318	0.31	0.214	0.285	-
	Dar'aa	0.018	0.034	0.012	0.003	0.02	0.019	0.021	0.019	0.048	0.097	-
	Tartous	0.189	0.029	0.011	0.004	0.002	0.06	0.012	0.053	0.054	0.031	-
	Lattakia	0.116	0.043	0.023	0.004	0.015	0.059	0.062	0.037	0.054	0.033	-
	Deir-ez-Zor	0.002	0.024	0.007	0.005	0.004	0.022	0.012	0.01	0.026	0.009	-
	Hassakeh	0.001	0.028	0.022	0.003	0.003	0.015	0.023	0.017	0.03	0.013	-
	Raqqa	0	0.012	0.011	0.001	0.003	0.014	0.005	0.005	0.018	0.021	-
	Qunetra	0	0.002	0	0	0	0.001	0	0	0.008	0.005	-
	Sweida	0.002	0.016	0.007	0.001	0.008	0.006	0.002	0.006	0.026	0.009	-
	Homs	0.013	0.103	0.044	0.013	0.081	0.112	0.064	0.065	0.106	0.079	-
	Hama	0.023	0.084	0.029	0.059	0.035	0.062	0.056	0.085	0.102	0.12	-
	Aleppo	0.493	0.238	0.524	0.604	0.328	0.284	0.285	0.273	0.181	0.102	-
	Idleb	0.125	0.063	0.023	0.009	0.016	0.054	0.052	0.013	0.085	0.083	-
	Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-
Pollution load by Governorate (kg/day)	Damascus	31.1	2,360.3	11,021.4	0.2	292.5	56.8	8.7	211.2	4.2	160.5	14,146.9
	Rural Damascus	80.9	6,330.1	16,725.5	0.1	1,549.9	121.6	31.6	612.0	18.5	404.6	25,874.8
	Dar'aa	112.0	911.9	1,160.1	0.0	76.0	11.6	2.1	37.5	4.2	137.7	2,453.1
	Tartous	1,176.0	777.8	1,063.5	0.0	7.6	36.7	1.2	104.6	4.7	44.0	3,216.1
	Lattakia	721.8	1,153.3	2,223.6	0.0	57.0	36.0	6.1	73.0	4.7	46.9	4,322.4
	Deir-ez-Zor	12.4	643.7	676.8	0.0	15.2	13.4	1.2	19.7	2.3	12.8	1,397.5
	Hassakeh	6.2	751.0	2,126.9	0.0	11.4	9.2	2.3	33.6	2.6	18.5	2,961.7
	Raqqa	0.0	321.9	1,063.5	0.0	11.4	8.6	0.5	9.9	1.6	29.8	1,447.2
	Qunetra	0.0	53.6	0.0	0.0	0.0	0.6	0.0	0.0	0.7	7.1	62.0
	Sweida	12.4	429.2	676.8	0.0	30.4	3.7	0.2	11.8	2.3	12.8	1,179.6
	Homs	80.9	2,762.7	4,253.9	0.0	307.7	68.4	6.3	128.3	9.2	112.2	7,729.6
	Hama	143.1	2,253.0	2,803.7	0.1	133.0	37.9	5.5	167.8	8.9	170.4	5,723.4
	Aleppo	3,067.4	6,383.7	50,659.7	0.6	1,246.1	173.5	28.2	538.9	15.7	144.8	62,258.6
	Idleb	777.8	1,689.8	2,223.6	0.0	60.8	33.0	5.1	25.7	7.4	117.9	4,941.1
	Total	6,222.0	26,822.0	96,679.0	1.0	3,799.0	611.0	99.0	1,974.0	87.0	1,420.0	137,714.0

Table A8.3.9 (4) Estimated pollution load generation (private sector: T-N)

Items		Type of Industry (Code)										Total
		15141	from 15131 to 15543, except 15141	from 17111 to 18230	from 19111 to 19250	from 24111 to 24310	from 20111 to 20295	from 29111 to 29393	from 27111 to 27322	from 26111 to 26999	from 15111 to 15119	
Pollution Load Generation (T-N-kg/day)		4,044	575	4,054	2	175	0	0	49	0	172	9,071
Ratio of Distribution	Damascus	0.005	0.088	0.114	0.19	0.077	0.093	0.088	0.107	0.048	0.113	-
	Rural Damascus	0.013	0.236	0.173	0.104	0.408	0.199	0.318	0.31	0.214	0.285	-
	Dar'aa	0.018	0.034	0.012	0.003	0.02	0.019	0.021	0.019	0.048	0.097	-
	Tartous	0.189	0.029	0.011	0.004	0.002	0.06	0.012	0.053	0.054	0.031	-
	Lattakia	0.116	0.043	0.023	0.004	0.015	0.059	0.062	0.037	0.054	0.033	-
	Deir-ez-Zor	0.002	0.024	0.007	0.005	0.004	0.022	0.012	0.01	0.026	0.009	-
	Hassakeh	0.001	0.028	0.022	0.003	0.003	0.015	0.023	0.017	0.03	0.013	-
	Raqqa	0	0.012	0.011	0.001	0.003	0.014	0.005	0.005	0.018	0.021	-
	Qunetra	0	0.002	0	0	0	0.001	0	0	0.008	0.005	-
	Sweida	0.002	0.016	0.007	0.001	0.008	0.006	0.002	0.006	0.026	0.009	-
	Homs	0.013	0.103	0.044	0.013	0.081	0.112	0.064	0.065	0.106	0.079	-
	Hama	0.023	0.084	0.029	0.059	0.035	0.062	0.056	0.085	0.102	0.12	-
	Aleppo	0.493	0.238	0.524	0.604	0.328	0.284	0.285	0.273	0.181	0.102	-
	Idleb	0.125	0.063	0.023	0.009	0.016	0.054	0.052	0.013	0.085	0.083	-
	Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-
Pollution load by Governorate (kg/day)	Damascus	20.2	50.6	462.2	0.4	13.5	0.0	0.0	5.2	0.0	19.4	571.5
	Rural Damascus	52.6	135.7	701.3	0.2	71.4	0.0	0.0	15.3	0.0	49.1	1,025.6
	Dar'aa	72.8	19.6	48.6	0.0	3.5	0.0	0.0	0.9	0.0	16.7	162.1
	Tartous	764.3	16.7	44.6	0.0	0.4	0.0	0.0	2.6	0.0	5.3	833.9
	Lattakia	469.1	24.7	93.2	0.0	2.6	0.0	0.0	1.8	0.0	5.7	597.1
	Deir-ez-Zor	8.1	13.8	28.4	0.0	0.7	0.0	0.0	0.5	0.0	1.5	53.0
	Hassakeh	4.0	16.1	89.2	0.0	0.5	0.0	0.0	0.8	0.0	2.2	112.8
	Raqqa	0.0	6.9	44.6	0.0	0.5	0.0	0.0	0.2	0.0	3.6	55.8
	Qunetra	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2.1
	Sweida	8.1	9.2	28.4	0.0	1.4	0.0	0.0	0.3	0.0	1.5	48.9
	Homs	52.6	59.2	178.4	0.0	14.2	0.0	0.0	3.2	0.0	13.6	321.2
	Hama	93.0	48.3	117.6	0.1	6.1	0.0	0.0	4.2	0.0	20.7	290.0
	Aleppo	1,993.7	136.8	2,124.3	1.3	57.4	0.0	0.0	13.4	0.0	17.5	4,344.4
	Idleb	505.5	36.2	93.2	0.0	2.8	0.0	0.0	0.6	0.0	14.3	652.6
	Total	4,044.0	575.0	4,054.0	2.0	175.0	0.0	0.0	49.0	0.0	172.0	9,071.0

Table A8.3.9 (5) Estimated pollution load generation (private sector: T-P)

Items		Type of Industry (Code)										Total
		15141	from 15131 to 15543, except 15141	from 17111 to 18230	from 19111 to 19250	from 24111 to 24310	from 20111 to 20295	from 29111 to 29393	from 27111 to 27322	from 26111 to 26999	from 15111 to 15119	
Pollution Load Generation (T-P-kg/day)		3,822	267	558	1	609	0	0	51	0	178	5,486
Ratio of Distribution	Damascus	0.005	0.088	0.114	0.19	0.077	0.093	0.088	0.107	0.048	0.113	-
	Rural Damascus	0.013	0.236	0.173	0.104	0.408	0.199	0.318	0.31	0.214	0.285	-
	Dar'aa	0.018	0.034	0.012	0.003	0.02	0.019	0.021	0.019	0.048	0.097	-
	Tartous	0.189	0.029	0.011	0.004	0.002	0.06	0.012	0.053	0.054	0.031	-
	Lattakia	0.116	0.043	0.023	0.004	0.015	0.059	0.062	0.037	0.054	0.033	-
	Deir-ez-Zor	0.002	0.024	0.007	0.005	0.004	0.022	0.012	0.01	0.026	0.009	-
	Hassakeh	0.001	0.028	0.022	0.003	0.003	0.015	0.023	0.017	0.03	0.013	-
	Raqqa	0	0.012	0.011	0.001	0.003	0.014	0.005	0.005	0.018	0.021	-
	Qunetra	0	0.002	0	0	0	0.001	0	0	0.008	0.005	-
	Sweida	0.002	0.016	0.007	0.001	0.008	0.006	0.002	0.006	0.026	0.009	-
	Homs	0.013	0.103	0.044	0.013	0.081	0.112	0.064	0.065	0.106	0.079	-
	Hama	0.023	0.084	0.029	0.059	0.035	0.062	0.056	0.085	0.102	0.12	-
	Aleppo	0.493	0.238	0.524	0.604	0.328	0.284	0.285	0.273	0.181	0.102	-
	Idleb	0.125	0.063	0.023	0.009	0.016	0.054	0.052	0.013	0.085	0.083	-
	Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-
Pollution load by Governorate (kg/day)	Damascus	19.1	23.5	63.6	0.2	46.9	0.0	0.0	5.5	0.0	20.1	178.9
	Rural Damascus	49.7	63.0	96.5	0.1	248.6	0.0	0.0	15.7	0.0	50.6	524.2
	Dar'aa	68.8	9.1	6.7	0.0	12.2	0.0	0.0	1.0	0.0	17.3	115.1
	Tartous	722.4	7.7	6.1	0.0	1.2	0.0	0.0	2.7	0.0	5.5	745.6
	Lattakia	443.4	11.5	12.8	0.0	9.1	0.0	0.0	1.9	0.0	5.9	484.6
	Deir-ez-Zor	7.6	6.4	3.9	0.0	2.4	0.0	0.0	0.5	0.0	1.6	22.4
	Hassakeh	3.8	7.5	12.3	0.0	1.8	0.0	0.0	0.9	0.0	2.3	28.6
	Raqqa	0.0	3.2	6.1	0.0	1.8	0.0	0.0	0.3	0.0	3.7	15.1
	Qunetra	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.4
	Sweida	7.6	4.3	3.9	0.0	4.9	0.0	0.0	0.3	0.0	1.6	22.6
	Homs	49.7	27.5	24.6	0.0	49.3	0.0	0.0	3.3	0.0	14.1	168.5
	Hama	87.9	22.4	16.2	0.1	21.3	0.0	0.0	4.3	0.0	21.4	173.6
	Aleppo	1,884.2	63.6	292.5	0.6	199.8	0.0	0.0	13.9	0.0	18.2	2,472.8
	Idleb	477.8	16.8	12.8	0.0	9.7	0.0	0.0	0.7	0.0	14.8	532.6
	Total	3,822.0	267.0	558.0	1.0	609.0	0.0	0.0	51.0	0.0	178.0	5,486.0

Table A8.3.10 Estimated discharged pollution load (private sector)

Governorate	Discharged Water Volume (m^3/day)	Pollution Load Generation (kg/day)					Discharged Pollution Load (kg/day)				
		BOD	COD	SS	T-N	T-P	BOD	COD	SS	T-N	T-P
Damascus *	9,343	6,304.4	39,866.8	14,146.9	571.5	178.9	-	-	-	-	-
Rural Damascus	19,689	15,347.0	83,631.2	25,874.8	1,025.6	524.2	13,106.0	71,421.0	22,097.0	876.0	448.0
Dar'aa	1,881	2,306.3	12,995.2	2,453.1	162.1	115.1	2,306.3	12,995.2	2,453.1	162.1	115.1
Tartous	1,911	4,635.2	32,564.0	3,216.1	833.9	745.6	4,635.2	32,564.0	3,216.1	833.9	745.6
Lattakia	2,775	4,273.7	27,098.0	4,322.4	597.1	484.6	4,273.7	27,098.0	4,322.4	597.1	484.6
Deir-ez-Zor	971	1,237.6	5,126.0	1,397.5	53.0	22.4	1,237.6	5,126.0	1,397.5	53.0	22.4
Hassakeh	1,892	1,635.7	8,535.2	2,961.7	112.8	28.6	1,635.7	8,535.2	2,961.7	112.8	28.6
Raqqa	937	767.2	4,512.4	1,447.2	55.8	15.1	767.2	4,512.4	1,447.2	55.8	15.1
Qunetra	53	101.8	436.5	62.0	2.1	1.4	101.8	436.5	62.0	2.1	1.4
Sweida	816	887.8	4,118.7	1,179.6	48.9	22.6	887.8	4,118.7	1,179.6	48.9	22.6
Homs	5,657	5,899.0	27,934.7	7,729.6	321.2	168.5	5,899.0	27,934.7	7,729.6	321.2	168.5
Hama *	4,283	5,017.5	24,723.3	5,723.4	290.0	173.6	4,285.0	21,114.0	4,888.0	248.0	148.0
Aleppo *	38,371	27,660.3	207,855.6	62,258.6	4,344.4	2,472.8	14,522.0	109,124.0	32,686.0	2,281.0	1,298.0
Idleb	3,234	5,401.5	32,512.4	4,941.1	652.6	532.6	5,401.5	32,512.4	4,941.1	652.6	532.6
Total	91,813.0	81,475.0	511,910.0	137,714.0	9,071.0	5,486.0	59,058.8	357,492.1	89,381.3	6,244.5	4,030.5

"The discharged pollution load" = "the pollution load generation" x (1.0 – the following ratio)

It is assumed that the ratio of factory discharging into sewer networks is same as the ratio of served population of sewerage system in total population.

Rural Damascus: 14.6%
Damascus: 100%
Aleppo: 47.5%
Homs: 14.6% (Since there is no data, the same value as Rural Damascus is assumed.)