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๓~ง ถิริอิสษษยไต ร

 ริหนเธิตกต

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## STzerom

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## 5655 草

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## สิโ్రికణవณ





















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| ปนกยููัดั-9: |  |
| :---: | :---: |
| quกููg given |  |
| \&บญ |  |
|  |  |
| Quสษููg -tm-8: |  |
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Land Allocation by Year for the Plantation Development guavgila




,365




profitabilityTdrax

Paybackernocl

| Tmeskeksk | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CFus | 7,301,330 | 7,301,330 | 7,301,330 | 7,301,330 | 7,301,330 | 7,301,330 | 7,301,330 |

 FOR PLANTATION，PROCESSING INVESTMENT PROJECT
णリリビB เư）
No

 FOR PLANTATION, PROCESSING INVESTMENT PROJECT


A-
Cultivated Areas
B- 0 onnw Expendituro

| B-1 ธแmm | US\$ | 10,000 | 10,000 | 10,000 | 10,00 | 10,00 | 10 | 0 | 10,000 | 0 | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 เ่ณกญบกิบรูก | US\$ | 6,284,44 | 6,724,74 | 6,908,00 | 6,908,00 | 6,908,00 | 6,908,00 | 6,908,000 | 6,908,000 | 6,908,000 | 6,908,000 |
|  | US | 961,22 | 961,22 | 961,22 | 961,22 | 961,22 | 961,22 | 961,225 | 961,225 | 961,225 | 961,225 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| C. onjoisale/lfocme ธ่ถุดตีตางณก่ | US\$ | 12,161,310 | $14,472,885$ | $15,435,000$ | 15,435,000 | $15,435,000$ | 15,435,000 | $15,435,000$ | 15,435,000 | 15,435,000 | $\because$ $15,435,000$ |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |



REVENUE FROM INVESTMENT, 2027-2036

 Requirement of Heavy Equipment \& Civil Works पทषण

| Now |  | binl <br> Unit | Wivian | niebntu itptrco | Whatotal costskigh |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| $1-$ |  | Unit | 20 | 40,000.00 | 800,000.00 |
| 2- | गטught minis | Unit | 10 | 30,000.00 | 300,000.00 |
| 3- | JƯせug Pick-Up Double Cab. | Unit | 5 | 30,000.00 | 150,000.00 |
| $3-$ | [nTrisi Tractor | Unit | 10 | 40,000.00 | 400,000.00 |
| 4- |  | Unit | 8 | 40,000:00 | 320,000.00 |
| $5-$ | โุ®ถูึกั Bulldozer | Unit | 10 | 40,000.00 | 400,000.00 |
| $6-$ |  | Unit | 2 | 40,000.00 | $80,000.00$ |
| $7-$ | หาบุงบู่รัก | Unit | 10 | 6,000.00 | 60,000.00 |
| $8-$ |  | LS | 1 | 500,000.00 | 500,000.00 |
| 9- | ถ่บุ๊มเกี่บ | Unit | 5 | 10,000,00 | 50,000.00 |
| TM. |  |  |  |  |  |
|  |  |  |  |  |  |
| 1. | . นาปธโกir | Unit | 1 | 7,500,000.00 | 7,500,000.00 |
|  |  |  |  |  |  |


Procurement Plan for the Equipment, Factory by year, year-1 to 5 '

| No. <br> H2 |  | Mgarove | $5$ | 595ing | 1. | 5ighajd |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A. |  |  |  |  |  |  |
| $1-$ |  | 400,000 | 200,000 | 200,000 |  |  |
| $2-$ |  | 150,000 | 120,000 | 30,000 |  |  |
| $3-$ | Tutug Pick-Up Double Cab. | 90,000 | 60,000 |  |  |  |
| $3-$ | - [mx่s Tractor | 240,000 | 80,000 | 80,000 |  |  |
| $4-$ | TH@ncisit Excavator | 200,000 | 120,000 |  |  |  |
| 5. |  | 280,000 | 120,000 |  |  |  |
| $6-$ |  | 80,000 |  |  |  |  |
| $7-$ | ยากุงมบูษดีก | 30,000 | 18,000 | 12,000 |  |  |
| 8 - |  | 200,000 | 200,000 | 100,000 |  |  |
| $9-$ |  | 30,000 | 10,000. | 10.000 |  |  |
| Whany |  |  |  |  |  |  |
| 1 - |  |  |  |  | 1,000,000 | 3,000,000 |
|  |  |  |  |  |  |  |


| No． G | SSEROM ltems | Tatione | Kigion | Tidnomunt pice <br>  | ATH Total Costs UUS5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| T | stn 0 |  |  |  |  |
| 1. |  |  | 4 | 1，200．00 | 4，800．00 |
| 2. | กุपูăsựtix Labtop Computer | Set | 1 | 1，850．00 | 1，850．00 |
| 3. | ถोกุีBtrys Scaner | Unit | 1 | 1，000．00 | 1，000．00 |
| 4 |  | Unit | 1 | 500.00 | 500.00 |
| 5. | ๕⿺尢丶ñ Telephone | Unit | 2 | 2 400.00 | －800．00 |
| 6 － | Bาก̣̃ LCD Data Projector | Unit | 1 | 1 4，500 00 | 4，500．00 |
| 7. |  | Unit | 1 | 1 4，000．00 | －4，000．00 |
| 8. | groñtu Mobile Phone | Unit | 3 | 300.00 | 1，200．00 |
| 9－ | tajug Others | LS | 1 | 1，500．00 | 1，500．00 |




Requirement of Local Labors and External Expertises, Year-1 to Year-5


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Requirement of Local Labors and External Expertises, Year-6 to Year-10

| $\square$ |  | Mnits. US $\$ / 16$ |  |  | $\square$ |  | NomernatNoss |  | M, ndad |  | - प7090 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | No. | US\$ |  |  | No. | US\$ |
|  <br>  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 600 | 6 | 43200 |  |  |  | 36000 | 5 | 36000 | - 5 | 36000 | - 5 | 36000 |
|  |  | 300 | 100 | 360000 | 70 | 252000 | 40 | 144000 | 40 | 144000 | 40 | 14400 |
|  |  | 270 | 20 | 64800 | 20 | 64800 | 20 | 64800 | 20 | 64800 | 20 | 6480 |
|  |  | 100 | 400 | 480000 | 400 | 480000 | 400 | 480000 | . 400 | 480000 | 400 | 480000 |
|  | คหูศงมเไกู์ | 70 | 1300 | 455000 | 1300 | 455000 | 1300 | 455000 | 1300 | 455000 | 1300 | 45500 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 3¢¢\% | 2500 | 1 | 30000 |  | 30000 | - 1 | 30000 |  | 30000 | 1 | 0000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

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Requirement of Local Labors and External Expertises, Year-11 to Year-15,



Variable and Fixed Cost for Plantation Development, Year-1


| No. |  | มกต <br> Unit | บริยาณก Quantity | กไมดกต Unit Cost (US\$) | Nufuiamex Total Costs (US\$) |
| :---: | :---: | :---: | :---: | :---: | :---: |

Plantation Area
$\mathrm{Ha}, 1055$
A. inumutit Variable Costs:

1. ت̈ณmயutirning Rubber Planting

Ha
1055
990.40

1,044,872.00

| Sutuiamuotit Plantation Development |  |  |  | 1,044,872.00 |
| :---: | :---: | :---: | :---: | :---: |
| 1- ธ̇ณmயைญักญถษ Labors | 12 Months | 1 | 587,000.00 | 587,000.00 |
| 2- ธ่นกயบโั่ร่ Maintenance Costs | Ha | 1055 | 240.00 | 253,200.00 |
|  | 12 Months | 1 | 24,000.00 | 24,000.00 |
|  | Ha | 1055 | 100.00 | 105,500.00 |
| 5- Eirmurnuighurify Other Mnt Costs | LS | 1 | 10,000.00 | 10,000.00 |
|  |  |  |  | 979,700.00 |
| Nfuemuntut Total Variable Costs |  |  |  | 2,024,572.00 |
| B- immutif Fixed Costs: |  |  |  |  |
|  | Uss |  |  | 826,005.00 |
| B-2 .nımuminterest Payment | USS |  |  | 10,000.00 |
| B-3 ตnsinutitnt⿺𠃊 Social Insurance/Security | US\$ |  |  | 41,090.00 |
|  | $\operatorname{Tax}$ | $2$ |  | 877,095,00 |
| B-4 ตึกนั่ จิy na Petant \& Tax | US\$ |  |  | 0.00 |
| splucumutut Total Fixed Costs: | USS |  |  | 877,095.00 |
| C. Nנutumu Total Costs (US\$) | $0$ |  |  | 2,901,667.00 |


Variable and Fixed Cost for Plantation Development, Year-2

| No. |  | มสต <br> Unit | บิเาดภ <br> Quantity | รไี่กตา <br> Unit Cost (US\$) | Nฺ̦utiamos <br> Total Costs (USS) |
| :---: | :---: | :---: | :---: | :---: | :---: |

A- ธignestrut Variable Costs:

| 1. பinmeుtirniलู̃ Rubber Planting | Ha | 1836 | 990.40 | $1,818,374.40$ |
| :--- | :--- | :--- | :--- | :--- |


| Nfurinmutrits Plantation Development |  |  |  | 1,818,374,40 |
| :---: | :---: | :---: | :---: | :---: |
|  | 12 Months | 1 | 1,024,600.00 | 1,024,600.00 |
| 2- ธ்ณmயบโัต่ Maintenance Costs | Ha | 2891 | 240.00 | 693,840.00 |
|  | 12 Months | 1 | 48,000.00 | 48,000.00 |
|  | Ha | 2891 | 100.00 | 289,100.00 |
|  | LS | 1 | 20,000.00 | 20,000.00 |
|  |  |  |  | 2,075,540.00 |
|  |  |  |  | 3,893,914.40 |
| B- innount Fixed Costs: |  |  |  |  |
|  |  |  |  | 826,005.00 |
| B-2 Mาร[min interest Payment US\$ |  |  |  | 10,000.00 |
|  |  |  |  | 71,722.00 |
| ajutumutibitshi Fixed Costs Less Tax |  |  |  | 907,727.00 |
|  |  |  |  | 0.00 |
| Nfutumututotal Fixed coss |  |  |  |  |
| C. Nfunimutotal Costs (US\$) | en |  |  | 4,801,641.40 |


Variable and Fixed Cost for Plantation Development, Year-3

| No. |  | ฉกตา <br> Unit | บิษาณก Quantity | nixanm <br> Unit Cost (US\$) | NTTUGinmu <br> Total Costs (US\$) |
| :---: | :---: | :---: | :---: | :---: | :---: |

A- Gิณmuntur Variable Costs:


| STusiamuxity Plantation Development |  |  |  | 1,296,433.60 |
| :---: | :---: | :---: | :---: | :---: |
| 1. 亡̇mmuturnont Labors Costs | 12 Months | 1 | 1,330,200.00 | 1,330,200.00 |
|  | Ha | 4,200 | 240.00 | 1,008,000.00 |
|  | 12 Months | 1 | 48,000.00 | 48,000.00 |
| 4. $̇$ - | Ha | 4,200 | 100.00 | 420,000.00 |
| 5- ธixnuribuy Other Costs | LS | 1 | 20,000.00 | 20,000.00 |
|  |  |  |  | 2,826,200.00 |
| nyưomattu Total Variable Costs: | USs, |  |  | 4,122,633.60 |

B- inmurut Fixed Costs:


Variable and Fixed Cost for Plantation Development，Year－4

| No． | S2Eำก⿺𠃊 | นกา <br> Unit | บิยาณก Quantity | กİgnm <br> Unit Cost（USS） | NTuciamu <br> Total Costs（US\＄） |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Plantation Area |  | Ha | 0 | 990.40 |  |
| A－Limmurtil Variable Costs： |  |  |  |  |  |
| $1-$ |  | Ha | 0 |  | 0.00 |
|  | QTVĖnmutios Plantation Development |  | $\cdots$ |  | 0.00 |
| $1-$ | บ่ถกแบเชัตญกษ Labors Costs | 12 Months | 1 | 1，217，600．00 | 1，217，600．00 |
| $2-$ | ธ่ณmชుรับ่์ Maintenance Cost | Ha | 4，200 | 240.00 | 1，008，000．00 |
| $3-$ |  | 12 Months | 1 | 48，000．00 | 48，000．00 |
| 4. |  | Ha | 4，200 | 100.00 | 420，600．00 |
| 5－ | ธัロmurajuy Other Costs | LS | 1 | 20，000．00 | 20，000．00 |
|  |  |  |  |  | 2，713，600．00 |
|  | बร̧ucimmantif Total Variable Costs： | US\＄ |  |  | 2，713，600．00 |
| B－ | Hinmmert Fixed Costs： |  |  |  |  |
|  |  | US\＄ |  |  | 825，005．00 |
|  | กั［นก่ Interest Payment | USS |  |  | 10，000．00 |
|  |  | US\＄ |  |  | 85，232．00 |
|  | sाuknmartitgiagng Fixed Costs Less | Tax |  |  | 921，237，00 |
|  |  | US\＄ |  | － | 0.00 |
|  | Qutucimich Total Fixed Costs： | US\$ |  |  | 921，237：00 |
|  | NJ̦U氏Mm Total Costs（US\＄） | 込 | $\cdots$ |  | 3，634，837．00 |


Variable and Fixed Cost for Plantation Development, Year-5
1

| No. | Stexames ltems | 누ำ <br> Unit | บี่ยดก <br> Quantity | กิ่มดกต <br> Unit Cost (US\$) | N̦̦uธ்ames <br> Total Costs (US\$) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| rea |  | Ha | 0 |  |  |

1. 

A- Gioneurtit Variable Costs:

1


I

Variable and Fixed Cost for Plantation Development, Year-6

| No. | צ2ธix\%tes ltems |  <br> Unit | บิยาณก Quantity | ทोรดตก <br> Unit Cost (USS) | Nuุueiann <br> Total Costs (US\$) |
| :---: | :---: | :---: | :---: | :---: | :---: |

A. inmeutut Variable Costs:

$\begin{array}{ll}\text { ajutianutige Plantation Development } & 0.00\end{array}$

| 1. பinmutunnsxy tabors | 12 Mọnths | 1 | 1,435,400.00 | 1,435,400.00 |
| :---: | :---: | :---: | :---: | :---: |
| 2. ธ่กmuťษ่ Maintenance Costs | Ha | 4,200 | 240.00 | 1,008,000.00 |
|  | Ha | 4,200 | 100.00 | 420,000.00 |
| 4- பinmeutufuy Other Costs | LS | 1 | 20,000.00 | 20,000.00 |
|  |  | . |  | 2,883,400.00 |
|  | US\$ |  |  | 2,883,400,00 |

B. ingurut Fixed Costs:


Variable and Fixed Cost for Plantation Development, Year-7

| No. | 5\%ธธถ\% | มสกา <br> Unit | บิยาณา Quantity | กเิตนกต <br> Unit Cost (US\$) | बุ\|criamm <br> Total Costs (US\$) |
| :---: | :---: | :---: | :---: | :---: | :---: |

A- inmoursit Variable Costs:
1- U̇กnưtuirniş่ Rubber Planting
Ha
0
990.40
0.00

| Nנutinnumbit Plantation Development |  |  |  | 0.00 |
| :---: | :---: | :---: | :---: | :---: |
|  | 12 Months | 1 | 1,320,200.00 | 1,320,200.c0 |
| 2- ¢inmextu์nituci Maintenance Costs | Ha | 4,200 | 240.00 | 1,008,000.00 |
|  | Ha | 4,200 | 100.00 | 420,000.00 |
|  | Ha | 1,055 | 210.00 | 221,550.00 |
|  | Ton | 844 | 30.00 | 25,320.00 |
|  | per year | 1 | 30,000.00 | 30,000.00 |
|  | Ton | 844 | 250.00 | 211,000.00 |
| Nutumutunitin Operating Costs |  |  |  | 3,236,070.00 |
| - Ņưumbutut Total Varable Costs: | USS |  |  | 3,236,070.00 |

B. Einmoutir Fixed Costs:

USS
USS
USS
$92,414.00$


B-4 ตักห่ घิy ตร Patent \& Tax USS
0.00
dutuanutit Total Fixed Costs:
USS
928,419.00


##  <br>  <br> Variable and Fixed Cost for Plantation Development, Year-8

| No. | ¢8ษึన\% | มกก <br> Unit | บียาณก Quantity | กัสดกต <br> Unit Cost (USS) |  <br> Total Costs (US\$) |
| :---: | :---: | :---: | :---: | :---: | :---: |

A- 它mutitur Variable Costs:
1- צ่ณmatrisning Rubber Planting
Ha
0
990.40
0.00

| NנบEinmutits Plantation Development |  |  |  | 0.00 |
| :---: | :---: | :---: | :---: | :---: |
|  | 12 Months | 1 | 1,212,200.00 | 1,212,200.00 |
|  | Ha | 4,200 | 240.00 | 1,008,000.00 |
|  | Ha | 2,891 | 210.00 | 607,110.00 |
|  | Ton | 2523.8 | 250.00 | 630,950.00 |
|  | Tọn | 2523.8 | 30.00 | 75,714.00 |
| 6- Tank | per year | 1 | 30.000 .00 | 30,000.00 |
|  | Ha | 4,200 | 100.00 | 420,000.00 |
|  |  |  |  | 3,983,974.00 |
|  | US\$ |  |  | 3,983,974,00 |

B- تinmertit Fixed Costs:



```
Variable and Fixed Cost for Plantation Development, Year-9
```

| No. | 48 ษismus Items | ฉกตร <br> Unit | บิษาณก <br> Quantity | ก!ษมn\% <br> Unit Cost (US\$) | Nụucianu <br> Total Costs (US\$) |
| :---: | :---: | :---: | :---: | :---: | :---: |


1- ธ்amưtirnien Rubber Planting
$\mathrm{Ha} \quad \mathrm{O}$
990.40
0.00

1

B. Ginmbiti Fixed Costs:

1


Variable and Fixed Cost for Plantation Development, Year-10

| No. | צ8\%ixiex | anm <br> Unit | บิษาณก <br> Quantity | กับมฉกา <br> Unit Cost (US\$) | aturiamm <br> Total Costs (USS) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Plantation Area |  | Ha |  | - |  |


| 1- பinumaxitriņ Rubber Planting | Ha | 0 | 990.40 | 0.00 |
| :---: | :---: | :---: | :---: | :---: |
| Mrusilmmatits Plantation Development |  |  |  | 0.00 |
| 1. ธinnurxunnung Labors | 12 Months | 1 | 1,212,200.00 | 1,212,200.00 |
|  | Ha | 4,200 | 240.00 | 1,008,000.00 |
|  | Ha | 4200 | 210.00 | 882,000.00 |
| 4- ธ̇ณmuxtmitninix Processing Cost | Ton | 6173 | 250.00 | 1,543,250.00 |
|  | Ton | 6,173 | 30.00 | 185,190.00 |
|  | Ha | 4,200 | 100.00 | 420,000,00 |
|  | Ha | 20 | 600.00 | 12,000.00 |
|  |  |  |  | 5,262,640,00 |
| ヘูutinuxict Total Variable Costs: | uss |  |  | 5,262,640,00 |

B- $\because$ gnatit Fixed Costs:

|  |  | US\$ | 820,005.00 |
| :---: | :---: | :---: | :---: |
|  | ตาโนmix Interest Payment | US\$ | 20,000.00 |
| B-3 | ตสาที่งบ์งมู่ Social Insurance/Security | US\$ | 84,854,00 |
| Wrouncosiberbing Fixed Costs Less Tax |  |  | 930,859.00 |
|  | ตัสน่งริบ กร Patent \& Tax | US\$ | 459,520.53 |
|  | Qutuinmont Total Flxed Costs: | Us\$ | 1,390,379.53 |
|  | Mutinmo Total Costs (US\$) |  | 6,653,019.53 |


Variable and Fixed Cost for Plantation Development, Year-11

| No. |  | เกต <br> Unit | บิยากก Quantity | กเูมตา <br> Unit Cost (UŞ) |  <br> Total Costs (US\$) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Plantation Area |  | Ha |  |  |  |
| A. inumeritit Variable Costs: |  |  |  |  |  |
|  | ธinmuxiniris Rubber Planting | Ha |  | 990.40 | 0.00 |
|  | ATr\|รัดmuxits Plantation Development |  |  |  | 0.00 |
|  |  | 12 Months | 1 | 1,646,000.00 | 1,646,000.00 |
|  | ธ่นกแบเญีกาเ์่ง่ Maintenance Costs | Ha | 4,200 | 240.00 | 1,008,000.00 |
|  |  | Ha | 4200 | 210.00 | 832,000.00 |
|  |  | Ton | 8273 | 250.00 | 2,068,250,00 |
|  |  | Ton | 8,273 | 30.00 | 248,190.00 |
|  |  | Ha | 4,200 | 100.00 | 420,000.00 |
| 7 - |  | Ha | 20 | 600.00 | 12,000.00 |
|  |  |  |  |  | 6,284,440.00 |
|  | NTบiamurtui Total Variable Costs: | US\$ |  |  | 6,284,440.00 |
| B- inmoutit Fixed Costs: |  | USS |  |  |  |
|  |  |  |  |  | 825,005.00 |
| B-2 | 2 nruni Interest Payment | uss |  |  | 20,000.00 |
|  |  | uss |  |  | 115,220.00 |
|  | atucimmuctubrasig Fixed Costs Less |  |  |  | 961,225.00 |
| B-4 |  | USS |  |  | 635,201.70 |
|  | - Nquinmaril Total Fixed Costs: | uss |  |  | 1,596,426.70 |
|  | NIUE̛On Total Costs (US\$) |  |  |  | 7,880,866.70 |


Variable and Fixed Cost for Plantation Development, Year-12


\&บณはมี- tq
Variable and Fixed Cost for Plantation Development, Year-13






















-รูบกาต Eye View-1

- ไูบกาต Eye View-2






|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Average |
| Year | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 2000 | 29.3 | 30.6 | 31.6 | 32.9 | 32.7 | 31.3 | 32.3 | 32.3 | 32.1 | 31.4 | 29.7 | 29.6 | 31.3 |
| 2001 | 30.8 | 31.3 | 33.2 | 33.7 | 32.9 | 33.4 | 31.9 | 31.1 | 31.8 | 31.2 | 30.3 | 30.0 | 31.8 |
| 2002 | 31.8 | 31.5 | 33.7 | 34.6 | 33.5 | 33.9 | 31.8 | 31.5 | 31.0 | 31.4 | 30.8 | 29.9 | 32.1 |
| 2003 | 32.4 | 32.1 | 33.8 | 34.6 | 34.2 | 33.1 | 31.6 | 31.1 | 30.4 | 31.5 | 32.1 | 29.8 | 32.2 |
| 2004 | 32.9 | 33.6 | 36.6 | 37.3 | 36.7 | 32.7 | 32.6 | 31.9 | 31.4 | 31.5 | 32.7 | 31.7 | 33.5 |
| 2005 | 31.5 | 35.3 | 35.8 | 36.8 | 36.5 | 34.4 | 31.8 | 32.4 | 30.8 | 31.8 | 31.4 | 30.0 | 33.2 |
| 2006 | . 32.3 | 34.1 | 34.6 | 34.4 | 33.1 | 33.8 | 32.0 | 31.5 | 30.7 | 31.4 | 32.6 | 31.6 | 32.7 |
| 2007 | 32.5 | 33.8 | 34.8 | 35.4 | 33.3 | 34.2 | 32.3 | 31.7 | 31.9 | 30.8 | 29.8 | 31.7 | 32.7 |
| 2008 | 31.6 | 32.3 | 34.0 | 34.9 | 32.7 | 32.7 | 33.3 | 31.8 | 31.9 | 31.9 | 31.1 | 30.6 | 32.4 |
| 2009 | 30.7 | 33.6 | 33.9 | 34.9 | 33.1 | 33.3 | 32.6 | 32.5 | 30.8 | no data |  |  |  |


| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Average |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 2000 | 18.8 | 20.7 | 22.0 | 23.1 | 23.2 | 24.0 | 23.7 | 24.5 | 23.5 | 22.4 | 21.5 | 20.4 | 31.3 |
| 2001 | 20.0 | 21.4 | 23.0 | 24.2 | 23.2 | 24.2 | 24.3 | 24.3 | 24.8 | 23.4 | 22.1 | 20.5 | 22.9 |
| 2002 | 20.0 | 20.8 | 22.5 | 24.0 | 23.7 | 23.8 | 24.7 | 24.0 | 25.0 | 23.2 | 21.2 | 20.5 | 22.8 |
| 2003 | 20.0 | 21.3 | 22.4 | 24.4 | 24.2 | 23.8 | 24.2 | 23.2 | 23.7 | 22.7 | 21.3 | 18.9 | 22.5 |
| 2004 | 19.7 | 20.3 | 23.5 | 24.4 | 24.2 | 22.8 | 23.4 | 23.6 | 23.1 | 22.1 | 21.3 | 17.8 | 22.2 |
| 2005 | 19.4 | 20.4 | 22.3 | 22.6 | 22.0 | 22.8 | 22.3 | 22.4 | 22.2 | 22.3 | 20.9 | 18.3 | 21.5 |
| 2006 | 19.4 | 20.4 | 22.3 | 22.6 | 22.0 | 22.8 | 22.3 | 22.4 | 22.2 | 22.3 | 20.9 | 18.3 | 21.5 |
| 2007 | 18.1 | 18.8 | 21.6 | 22.1 | 22.2 | 22.5 | 21.5 | 22.2 | 21.9 | 21.2 | 18.9 | 21.4 | 21.0 |
| 2008 | 22.9 | 24.1 | 26.4 | 27.8 | 28.0 | 28.6 | 28.9 | 25.1 | 25.3 | 25.3 | 23.6 | 21.8 | 25.6 |
| 2009 | 19.6 | 23.2 | 24.2 | 25.4 | 25.1 | 25.4 | 25.2 | 25.6 | 22.1 | 22.5 | 23.6 | 17.9 | 23.3 |



| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 2000 | 0.0 | 7.6 | 0.0 | 93.7 | 131.9 | 336.2 | 282.2 | 211.1 | 337.6 | 289.2 | 58.6 | 6.9 | 1755.0 |
| 2001 | 5.9 | 0.2 | 162.8 | 4.7 | 219.0 | 176.7 | 66.0 | 236.5 | 160.4 | 465.7 | 101.2 | 3.0 | 1602.1 |
| 2002 | 0.0 | 0.0 | 0.0 | 100.4 | 159.8 | 325.9 | 93.5 | 145.7 | 473.0 | 138.4 | 44.6 | 2.3 | 1483.6 |
| 2003 | 0.0 | 0.0 | 136.6 | 48.0 | 255.6 | 212.2 | 223.6 | 155.7 | 188.9 | 64.2 | 14.0 | 0.0 | 1298.8 |
| 2004 | 0.0 | 0.0 | 0.0 | 96.7 | 70.8 | 413.1 | 74.7 | 176.1 | 231.7 | 127.1 | 15.4 | 0.5 | . 1206.1 |
| 2005 | 0.0 | 0.0 | 13.8 | 59.7 | 119.9 | 176.3 | 298.8 | 99.2 | 343.3 | 119.4 | 139.4 | 5.4 | 1375.2 |
| 2006 | 0.0 | 112.7 | 16.3 | 177.2 | 314.3 | 73.7 | 271.6 | 451.2 | 288.5 | 194.1 | 39.3 | 6.5 | 1945.4 |
| 2007 | 0.0 | 0.0 | 65.3 | 158.4 | 174.4 | 281.1 | 95.1 | 167.5 | 95.1 | 281.1 | 105.0 | 0.0 | 1423.0 |
| 2008 | 23.1 | 48.9 | 29.7 | 113.9 | 291.3 | 97.6 | 50.6 | 265.7 | 348.5 | 316.2 | 87.6 | 4.2 | 1677.3 |
| 2009 | 0.0 | 130.0 | 46.2 | 120.6 | 216.8 | 138.2 | 81.4 | 143.5 | 497.2 | 116.1 | 68.2 | 0.0 | 1558.2 |
| Toltal | 29.0 | 299.4 | 470.7 | 973.3 | 1953.8 | 2231.0 | 1537.5 | 2052.2 | 2964.2 | 2111.5 | 673.3 | 28.8 | 15324.7 |

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Soil Classification - Ministry of Agriculture, Forestry and Fisheries, Cambodia

## Economic Land Concession

## Agriculture Potential Classification and Remarks of Soil Groups

| Classification | - Type of Soil | Agricultural Potential - Remarks |
| :---: | :---: | :---: |
| $1^{\text {st }}$ | LATOSOLS | Generally Good: Soil needs protection from erosion and fire. Composition phosphate and organic fertillzers (Rock phosphate) |
| $1^{\text {st }}$ | ALLUVIALS | Good Soil: Potential Acidity: Recommend colmatage canals. Cultivation concordance with the water regime. Green manure, phosphate, and potash (avoid the use of sulphate fertilizers) |
| $1^{\text {st }}$ | BROWN ALLUVIALS | Rich Soil: Need phosphate and potash. Flood protection |
| $1^{\text {st }}$ | REGURS | Rich Soll: <br> - Basaltic regurs: Cultivation to be encouraged <br> - With Irrigation, rice, sugar cane, pineapple, banana, seasonal crops etc. <br> - Calcic (Limestone) regurs: Corn, Beans, Banana, Cotton, Sugar cane |
| $2^{\text {nd }}$ | BROWN HYDROMORPHICS | Very Good Rice Soil: Arboriculture on higher elevation and other crops. String beans: cash crop in the rice paddies. |
| $2^{\text {nd }}$ | LACUSTRINE ALLUVIALS | Rich Soili: Need phosphate for a better yleld، Possible improvement irrigation |
| $3^{\text {rd }}$ | COSTAL COMPLEX | Protection against salt water. Good soil, but expensive engineering. |
| $3^{\text {rd }}$ | $\begin{aligned} & \text { RED YELLOW } \\ & \text { PODSOLS } \end{aligned}$ | Poor: Structure easily destroyed. Soil rapidly leached, lacking fertilizes elements. |
| $3^{\text {rd }}$ | CULTURAL HYDROMORPHICS | Graded Rice Paddies: Need organic and chemical fertilizing. Rotation with market gartering crops and beans. |
| $3^{\text {rd }}$ | GRAY <br> HYDROMORPHICS | Better Soil than Cultural Hydromorphics: Scattered in distance areas. Difficult access planting. $80 \%$ forests in depression and hollows. |
| $3^{\text {rd }}$ | PLANOSOLS | Soil Good: Enough for rice when prepared and irrigated. |
| $4^{\text {th }}$ | PLINTHITIC HYDROMORPHICS | Must remain under forest. |
| $4^{\text {th }}$ | ALUMISOLS | Toxid Soil: Need organic fertilizers, rock phosphate and urea for rice. Line and dralnage necessary for other crops. |
| $4^{\text {th }}$ | ACID LITHOSOLS | Optimum Use: Forestry. Recommended national park on west side, mountainous areas. Livestock in open forest area. |
| $4^{\text {th }}$ | BASIC LITHOSOLS | Optimum Use: Forestry, to be use for forest reserve. |
| $4^{\text {th }}$ | PLINTHITE PODZOLS | Soil Poorer: Low agriculture potential. Covered with open forest. Reserve for extensive for llvestock breeding. Cultivation not advisable. |

IHomel INewsI IOverviewI IObjectivesI JustificationI ICriterial ILawsI IProcedurel IProfilesI ISearcht IContact UsI

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WATER QUALITY GUIDELINES FOR VARIOUS USES
Table: WHO Guidelines for Surface Water Quality (WHO,1988)

| Water Quality Variables | Drinking Water | Irrigation Water |  | Livestock Watering | Fisheries |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | N.U.R | S.R. |  |  |
| Microbal Criteria |  |  |  |  |  |
| Total Coliform/100ml | 0-10 |  |  |  |  |
| Fecal Coliform/100ml | 0 |  | <1,000 |  |  |
| Intestinal nematodes/t. |  | $<1$ | $<1$ |  |  |
| Particulate Matters |  |  |  |  |  |
| Total Suspended Solids, mg/t. |  |  |  |  | * |
| Turbidity (NUT) | 1.0-5.0 |  |  |  | * |
| Transparency (cm) |  |  |  |  |  |
| Organic Pollution Indicators |  |  |  |  |  |
| Disolved Oxygen (mght |  |  |  | - | * |
| BOD, COD, TOC |  |  |  |  | - * |
| Phosphate (mght) |  |  |  |  |  |
| Chlorophylla |  |  |  |  |  |
| Temperature |  |  |  |  | * |
| Nitrogenous Compounds |  |  |  |  |  |
| Nitrate-N (mg/t.) | 10 | $<5$ | >30 | 100 | * |
| Nitrite-N (mg/t.) |  |  |  | 10 | * |
| Ammonia- N (mg/t.) |  |  |  |  |  |
| Kjeldahl-N (mg.lt.) |  |  |  |  |  |
| Salinity \& Specific lons |  |  |  |  |  |
| pH - | [6.5-8.5] | 6.5-8.4 | 6.5-8.5 |  | * |
| Electric Conductivity (mmho/cm) |  | $<0.7$ | >3.0 |  | . |
| Total Disolved Solids (mg/t.) | [1000] | 450 | >2,000 | 1000-10000 |  |
| Calcium (mght.) |  | SAR 3 | SAR<9 |  |  |


| Magnesium (mg/t.) |  | SAR 4 | SAR<9 |  |  |
| :--- | ---: | ---: | ---: | ---: | :---: |
| Sodium (mg/t.) | $[200]$ | SAR 5 | SAR<9 |  |  |
| Potassium (mg/t.) |  |  |  | $r$ |  |
| Boron (mg/t.) |  | 1.5 | 1.0 | 15.0 |  |
| Fluoride (mg/t.) | $[250]$ | 3.0 | 10.0 |  | 2.0 |
| Chloride (mg/t.) | $[400]$ |  |  |  | $*$ |
| Sulfate (mg/t.) |  | 1.5 |  |  |  |
| Bicarbonate (mg/t.) |  | $[500]$ |  |  | 8.5 |
| Hardness (mg CaCO3/t.) |  |  |  |  |  |

Organic Micropollutants ( $\mathrm{mg} / \mathrm{tt}$.)

| Aluminium | [0.2] | 5.0 | 20.0 | 5.0 | * |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Arsenic | 0.05 | 0.1 | 2.0 | 0.2 |  |
| Beryllium |  | 0.1 | 0.5 |  |  |
| Cadmium | 0.005 | 0.1 | 0.05 | 0.05 | * |
| Chromium | 0.05 | 0.01 | 1.0 | 1.0 | * |
| Cobalt |  | 0.05 | 5.0 | 1.0 |  |
| Copper | [1.0] | 0.2 | 5.0 | 0.5 | * |
| Cyanide | 0.1 |  |  |  |  |
| Hydrogen Sulfide |  |  |  |  |  |
| Iron | [0.3] | 5.0 | 20.0 |  |  |
| Lead | 0.05 | 5.0 | 10.0 | 0.1 | * |
| Lithium |  | 2.5 | 2.5 |  |  |
| Manganese | [0.1] | 2.0 | 10.0 |  |  |
| Mercury | 0.001 |  |  | 0.01 |  |
| Molybdenum |  | 0.1 | 0.05 |  |  |
| Nickel |  | 0.2 | 2 |  | * |
| Selenium | 0.01 | 0.02 | 0.02 | 0.05 | * |
| Vanadium |  | 0.1 | 1 | 0.1 |  |
| Zinc | [5.0] | 2.0 | 10.0 | 25.0 | * |

[^0]| Benzene | 10.0 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Carbon Tetrachloride | 3.0 |  |  |  |  |
| 1,2-Dichloroethane | 10.0 | $\cdots$ |  | ' |  |
| 1,1-Dichloroethylene | 0.3 |  |  |  |  |
| Tetrachloroethylene | 10.0 |  |  |  |  |
| Trichloroethylene | 30.0 |  |  |  |  |
| Pentachlorophenol | 10.0 |  |  |  | * |
| 2,4,6,Trichlorophenol | 10.0 |  |  |  | * |
| Benzo (a) pyrene | 0.01 |  |  |  | * |
| Chloroform | 30.0 |  |  |  |  |
| PCBs | - |  |  |  | $\cdots$ * |
| Pesticides ( $\mu \mathrm{g} / \mathrm{lt}$.) |  |  |  |  |  |
| Aldrin/Dieldrin | 0.03 |  |  |  |  |
| Chlordane | 0.3 |  |  |  |  |
| 2,4 D | 100.0 |  |  |  |  |
| DDT | 1.0 |  |  |  |  |
| Heptachlor | 0.1 |  |  |  | * |
| HCB | 0.01 |  |  |  |  |
| Lindane | 3.0 |  |  |  | * |
| Methoxychlor | 30.0 |  |  |  | * |
| TOC1 |  |  |  |  |  |

* $=$ Criteria for freshwater fish established
$\mathrm{SAR}=$ Sodium Absorption Ratio (based upon $\mathrm{Ca}, \mathrm{Mg}$, and Na )
( ) = Aesthetic (organoleptic) quality requirement for drinking water
[ 1] = Industrial uses are omitted due to the large variety of quality requirements
[2] = Only indicative - highly dependent on plant species


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ธ－を゙『 fivmn Photo Index Map－B

〔－近－る gumin Photo Index Map－C

Ts-ť-ct fumin Photo Index Map-E


ธ-を-E Jumn Photo Index Map-F


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ตากไ้ ตー9: AMPHIBIANS AND REPTILES IN CAMBODIA
(IUCN Listed in Red List, 2000 and CITES Appendix I and II)

| English Name | Scientific Name | Global Status | CITES |
| :---: | :---: | :---: | :---: |
| Mangrove Terrapin | Batagur baska | CR | 1 |
| Indochinese Box Turtle | Cuora galbinifrons | CR | II |
| Leatherback Sea Turtle | Dermochelys coriacea | CR | 1 |
| Hawksbill Sea Turtle | Eretmochelys imbricata | CR | 1 |
| Siamese Crocodile | Crocodylus siamensis | CR | 1 |
| Big-headed Turtle | Platisternon magacephalum | EN | - |
| Yellow-headed Temple Turtle | Hieremys annandalii | EN | - |
| Elongate Tortoise | Indotestudo elongata | EN | 11 |
| Asian Giant Softshell Turtle | Pelochelys cantorii | EN | - |
| Loggerhead Sea Turtle | Caretta caretta | EN | 1 |
| Green Sea Turtle | Chelonia mydas | EN | 1 |
| Olive Ridley Sea Turtle | Lepidochelys olivacea | EN | 1 |
| Giant Asian Pond Turtle | Heosemys grandis | VU | - |
| Asian Box Turtle | Cuora amboinensis | VU. | 11 |
| Malaisian Snail Eating Turtle | Malayemys subtrijuga | VU | - |
| Black Marsh Turtle | Siebenrockiella crassicollis | VU | - |
| Impressed Tortoise | Manouria impressa | VU | 11 |
| Asiatic Softshell Turtle | Amyda cartilaginea | VU | - |
| Asian Leaf Turtle | Cyclemys spp. | NT | - |
| Burmese Python | Python molurus bivittatus | NT | 11 |
| Estuarine Crocodile | Crocodylus porpsus | - | 11 |
| Bengal Monitor | Varanus bengalensis | - | 11 |
| Water Monitor | Varanus salvator | - | II |
| Reticulated Python | Python reticulatus | - | 11 |
| Common Rate Snake | Ptyas mucosus | - | 11 |
| King Cobra | Ophiophagus hannah | - | 11 |
| Monocled Cobra | Naja kaouthia | - | 11 |
| Indochinese Spitting Cobra | Naja siamensis | - | 1 |



ตากเน้ ก-๓ก: BIRDS IN CAMBODIA
(Globally Threatened Individual Groups to Cambodia in IUCN-Listed Species)

| Status | No. of Species | Families |
| :---: | :---: | :---: |
| Critical | 4 | 2 ibises (Threskiomithidea) |
| Critical |  | 2 vultures (Accipitridea) |
| Endangered | 5 | 1 partridge (Phasianidae) |
| Endangered |  | 1 duck (Anatidae) |
| Endangered |  | 1 stork (Ciconiidae) |
| Endangered |  | 1 bustuard (Otididae) |
| Endangered |  | 1 wader (Scolopacidae) |
| Vulnerable | 13 | 2 pheasants (Phasianidae) |
| Vulnerable |  | 2 storks (Ciconiidae) |
| Vulnerable |  | 2 eagles (Accipitridae) |
| Vulnerable |  | 1 pigeon (Columbidae) |
| Vulnerable |  | 1 crane (Gruidae) |
| Vulnerable |  | 1 finfoot (Heliomithidae) |
| Vulnerable |  | 1 pelican (Pelicanidae) |
| Vulnerable |  | 1 skimmer (Laridae) |
| Vulnerable |  | 1 oriole (Oriolidae) |
| Vulnerable |  | 1 warbler (Sylviidae) |
| Near-Threatened | 17 | 4 eagleas and vultures (Accipitridae) |
| Near-Threatened |  | 2 storks (Ciconiidae) |
| Near-Threatened |  | 2 hornbills (Bucerothidae) |
| Near-Threatened |  | 1 ibis (Threskiomithidea) |
| Near-Threatened |  | 1 wader (Scolopacidae) |
| Near-Threatened |  | 1 pheasant (Phasianidae) |
| Near-Threatened |  | 1 tern (Laridae) |
| Near-Threatened |  | 1 woodpecker (Picidae) |
| Near-Threatened |  | . 1 plover (Charadridae) |
| Near-Threatened |  | 1 weaver (Ploceinae) |
| Near-Threatened |  | 1 falcon (Falconidae) |
| Near-Threatened |  | 1 darter (Ahingidae) |

## 2すもちも゙

 ติโโุาะะยางญ่




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| ญ. 5 | เญู๊ | โูต | โถอมูงสัต | เนึ่านัท |
| :---: | :---: | :---: | :---: | :---: |
| 09 | ฟกอตรูษ ถฺన แร่ | \%ริตฺโอกู่ | . |  |
| O๒ |  | \%ริตถงรน้อกู่ |  |  |
| Om |  | รริตญโโฺกกโญาฟ |  |  |
| Ots | โถาก คึ่รูาร |  |  |  |
| 0¢ |  |  |  |  |
| 03 | ธถาก กุริบ ญิธ |  |  |  |
| OW | บถิิร ถี ธฺฺิิณู-ษุรี | ถาแก GCF |  |  |
| Ơ | โถากิ ตาร่ รูญู | บุศฺุญิก GCF |  |  |
| OE | โถาก แก่ เร่าูร |  |  |  |
| ๑0 |  |  |  |  |





| ถ.ร | ณญาร | โูตรี | গูษ | ษึ่ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 09 |  | โยเษษุ่ | ตొโายเนี้ | ถัโุาษ |  |
| 0 ロ | แูร โตึน | โกุยบีกูา | ถกโฺษญู่ | ถาโตง |  |
| om | ยูS ¢̧̣smm | Tixj | กัญโૂ囚 | ถาโตษ |  |
| Ots | ษุ่ லฺก | บบทันร | ถาโุายเนีน | ถาโตย |  |
| 0¢ | \%ร รึก | กบ่าม่ | ถาโุตษเนี้ | ถัโฺาย | $\cdots$ |
| 03 | โฺี่ โระ | บบตันร | ถาโุตยเนีท | ตาตาย |  |
| 001 | ตึก ต่ | บบ่นี่ | ถาโุตษเนึ่ | ถัโตาษ |  |
| ous |  | โบท่นัง | ตัโตายเนี้ | ถาโูาษ |  |
| 0¢ | โั่กัก มาร่ | [บึ่นึร | ถาโุาษเนีน | ลาโตาษ |  |
| ๑0 | ญูร ญิษ | ญบ่นึ่ | ถาโฺยชนี้ | ถัโุาษ |  |
| 99 |  | บบ่าน่ง | ถาโุตษสี้ม | ถัาโตาษ |  |
| ๑๒ | แาร มร | โบต่นัง | ถูโฺตษสนีน | ถัโโํา |  |
| ๑ต | โิิร โโฺูึ | บบ่าน่ง | ถาโุาษเนีท | ถาโตตษ |  |
| ๑๘ | gips ify | บบ่านี่ | ตาโตษษนีท | ถกโตตย |  |
| ๑ษ | ถาร่ เราร | บบ่านึร | ถัโตาษโนี | ถกโําษ |  |
| 93 | ตั่ ตาร่ | บบ่านึ | ถกโฺษเนีน | ถัโโาย |  |
| 9๗ | ตักีย | โษ่าน | ถาโุตยนี้ม | ถัโโํา |  |
| Qư | ธร ธุอณกร่ | ญฺ่นึ | ตาโตาษโนี้ | ถัโตาษ |  |
| ๑¢ |  | ษฺ่าน่ง | ถัโฺยยนีท | ถัโโาษ |  |
| ๒๐ | เรู๋ | โบ่นัง | ถาโุตยสี่ | ถัโโํา |  |
| ต9 | กู่ นิ้ร | บบMันร | ถกโุตยนี้น | ถัโโาษ |  |


| ต19 | ถั่ เัก | โบ่านึร | ถาโุาษโนี้น | ถักโาย |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ๒๓ | 975 โบา | โฺต่นัร | ถัโฺายเสี่ | ถาโึาย |  |
| ■G | กกึย ถู่ | โษกูษิ | ถาโุาษโนี้ม | ถาโตาง |  |
| நฺ¢ | ราธ่ โ¢ษ | \％รูึูษ | ถัโฺาษโนี้ม | ถาโึาษ |  |
| ๒b |  | โบต่านิร | ถาโฺาษโนี้ | ถิาโึา |  |
| ๒๙1 | โึรูร ณู | โษสันิร | ถาโุาษเนี้น | ถาโูาษ |  |
| ๒র্ণ | ตีย ต่าร | โบต่านร | ถาโฺายรสี้ฟ | ถูโการ |  |
| ๒6 | รั่ แ่่ | โบต่นิธ | ถาโฺษเนี้ | ถาโูตย |  |
| mo | โฺู๋ก รี | โฺ่านัร | ถาโฺาษเนีน | ถัาโิาษ |  |
| m9 | ถี่ ไิ่ | กฺ่าสร | ถูโฺาษโนึ้ั | ถูโิา\％ |  |
| ๓๒ | โโิีร โัญย | โบต่านร | ถูโโาษโนี้ม | ถัโตาษ |  |
| mm |  | โบ่านึ | ลาโฺายเสี่น | ถัโตา |  |
| mb | บุ่ บิ่ | โฺั่านร | ถาโูาษโนี่น | ถูาโตา |  |
| met | แัต กัญาร | โฺโันิ | ตาโตยงนี้ม | ถูาโฺาย |  |
| ๓る | 노 m | โญ่านัด | ถาโตาษเนี้ั | ถักโาษ |  |
| ต๗ | ถัํ แูร | โฺกูษิ | ถาโฺาษโนี่บ | ลิกโึา |  |
| mরo | แาร โรูึโ | โฺั่าเร | ถาโุษษเสี่น | ถัโิต |  |
| ๓อ | 97 | โบกานร | ตาโฺาษเสี่บ | ถัโโา |  |
| ๘0 | กู๊ธ รูร | โบนิกร | ถาโุาษเนี่ | ถัโิาร | ． |
| 〔9 | ถู่ นึ่ก | โบ่าก็ร | ตฺโฺาษโนี้า | ถูโตาษ |  |
| 匕⿺𠃊 | ตัร โรธ | โบ่านัง | ถัโตาษโสีน | ลําโูษ |  |
| 氏m | นููร โญฺูร | โบั่นัร | ถาโุาษเนึ้ั | ถาโฺาษ |  |
| ES | โระร | กบเานิร | ตาโตายเนึน | ลิกโิต |  |
| ¢旡 | แั่ ญิธ | บญ่านึ | ถาโูายรสี่น | ถักโิาษ |  |
| ¢ ${ }^{3}$ | ษ่ร่ ญูบ | บบ่นก | ถึโฺตยเนี้บ | ถาโูาษ |  |

xcix

| ET |  | โฺ่นิธ | ถูโฺตษเนีเป | ถิาโึษ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| โ¢ | ธี โนี้ร | กน่นี่ | ถกโุาษเนี้น | ถัาโตง |  |
| ¢E6 | ถู่ร ริาษ | บฺ่านด | ถูโฺาษโลี้น | ถิโตา |  |
| ${ }_{6}$ |  | โบพ่นิร | ถูโฺาษโนี้น | ถาโัาษ |  |
| ¢0 | โน่ยููษ | โฺஸัล | เฺาฺตยเนี้ั | ถิโิา |  |
| toty | ชิร โษธํ | โบนึน์ | ถาโฺาษเนี้ | ถาโิต |  |
| むm | ญิร กุด | กษ่านึถ | ถัโฺตษโสี้ | ถึโตาษ |  |
| كrs | โโึร ญฺญ | โบต่นั่ | ถูโฺาษเสี่ | ถัโตตษ |  |
| dex | โูึร ญิธ | บบ่านร | ถาโฺฺษเนี้ | ถาโุตย |  |
| \％${ }^{\text {c／}}$ | ตाร วิเ | โฺึนล | ถัโฺฺษเนี้ | ถาโูต ${ }^{\text {c }}$ |  |
| 0 | ๓ บี่ | โญ่านร | ถกโฺตยเนี้ั | ธําโึาง |  |
| \％${ }^{\circ}$ | ชึ้ํ ¢ | โฺน่านจ | ถัโฺตษโนี้ | ถัโูาร |  |
| ¢ | ตีย ษุถ | โบน่นจ | ถัโฺายเนี้น | ถาโตาร |  |
| ¢0 | 䉙 ถกำ | โบน่นิง | ถาโตาษโนี้ | ถาโู่ |  |
| 3 39 |  | โยกูษ | ถูโฺาษเนี้น | ถกโตาษ |  |
| る包 | รููค โิถ่ |  | ถาโุบรเนี้ | ถูโตาษ |  |
| อฺ๓ | รำ 27 ํ | โบกานด | ลงโฺายเสี่ | ถาโิา |  |
| อ¢ | ริ\％ญึ่ร | โบนึน์ | ถาโฺาษเนี่ | ถาโิาษ |  |
| วֻ | โต่ ผํา | โบ่านึ่ | ถาโุาษโนี้น | ถูาโํา |  |
| － 3 ¢ | กส่ากักสก | โบต่ากร | ถาโุาษโลิน | ถาโึาษ |  |
| อ $\downarrow$ | กูู กิ่ร | โู่านัร | ถาโฺาษเนี้ | ถักโาษ |  |
| องส |  | โบ่านด | ถัโตตษเนี้ | ถาโู่าษ |  |
| อย | \％ููก โตึ］ | โบต่นัร | ธัโฺายโนี้ | ถูโิาษ |  |
| ๗0 | ญิรักรร | โู่านด | ถาโฺาษเนึน | ถึโิา |  |
| กิ9 | ษุ๋ กุึู | โบต่านร | ถกโฺายเนี้ | ถาโตาษ |  |


| ๗ึต |  | โญஸ่นัถ | ตฺโคาษเสี่น้ | ถัโโาต |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ฟั\％ | ษุต ษาต | โษกูษิ | ร่ถโู่ถ่ | ถูโฺาย |  |
| 6）L | นิร นี | भรุกูษิ | ร่ญโุ่ถ่ | ถัโฺตํา |  |
| 冈ไt | ไิร โัถ్జ | สษานิก | ร่ถปู่ถ่ | ถูโตต |  |
| わる |  | โูเึ่ลร | ว่லโู่ด่ | ถูโตาษ |  |
| ถึ์ | ตูก ต ¢ | กูนิน่ง | ว่ถปู่ถ่ | ถัโฺตษ |  |
| Шబ |  | โฺ่าก็ | ร่ถธสู่ ถ่ | ถาโุาษ |  |
| ฟย | ไูร โรฺุ | บู่านด | ร่ถโู่ถ่ | ถาโุาษ |  |
| co |  | กูน่นิธ | ร่ถปูู่ ถ่ | ถูโตาง |  |
| สั | ตุ่ กูก | โบเ่นด | ร่ถสู่ด่ | ถัโตาษ |  |
| 丽 | ถฺ่ บึ่า | โบเัไล | ว่ญสู่ถ่่ | ถูโตาษ |  |
| む¢ | ธี้น ธิ่ | โฺเานง | ว่แษสถ่ | ถัโฺาย |  |
| Cots | ¢్y h \％รุ¢ | โฺ่านัง | ว่ถงโุ่ถ่ | ถัโตาง |  |
| dut | ตูg โfig | กนึ้นง | วิญโู่ถ่่ | ลิาโึ่า |  |
| de | กูก โล์ก | ษนึ่นึร | ว่ญโู่ ถ่ | ถูกโาย |  |
| Cov |  | บบ่านจ | วิไญโูู่ | ถัาโึ่า |  |
| むֹNo | โร่ารากา | โง่านึ | ร่ถปสูู่ | ถูโู่ |  |
| สู์ | 歌枵 | โฺรูษ | ว่าธโู่ถ่ | ถัโิต |  |
| ढ0 | โูก ร่าร | โบ่านัร | ริถงโู่ ่ | ถัาโฺาษ |  |
| פֿ | บํา นิ่ง | บบ่านั | ไ่ถโู่ถ่ | ถาโตาษ |  |
| E＇凶 | GูM | โบ่านัล | ไ่ถปสู่ด่ | ถัโโต |  |
| む่m | รู ตาร | บบ่านัง | กิถโู่ด่ | ถาโฺาษ |  |
| És | ¢్ูึษ โรา | โบั่นัร | ก่าชโู่ถ่ | ถัาโาษ |  |
| Et | โสููร การ | โบต่างร | ก่ถโุดธ่ | ถัาโึาษ |  |
| E3 |  | โยกูษิ | ไ่ถบู่ด่ | ถัโคาษ |  |





































[^0]:    Organic Micropollutants ( $\mu \mathrm{g} / \mathrm{t}$.)

