**PDM (Project design Matrix)**

Title of the Project (Project Duration): The project for improving adult's lifestyle approach from oral health in the Kingdom of Tonga  
(From August 2013 to July 2016 (three years))

Target Area: Tongatapu, Eua Island, Vava'u Islands, Ha'apai Islands

Target Group: Tongan (more than twelve years old) (Dental staff, Medical staff, Junior and senior high school students, pregnant and nursing mother, and normal patients)

<table>
<thead>
<tr>
<th>Narrative Summary</th>
<th>Objectively Verifiable Indicators</th>
<th>Means of Verification</th>
<th>Important Assumptions</th>
</tr>
</thead>
</table>
| Overall Goal:     | Prevent non-communicable diseases/ life related diseases (NCD; including oral disease) | 1) Interview  
2) Physical examination  
3) Progress report  
4) Self-evaluation (Self-monitoring) | Tongan regime won't change by any riot |

| Project Purpose:  |                                   | 1) Interview research to the target group's comprehension about oral disease and NCD.  
2) Dental examination  
3) Report from Ministries of Health and Education  
4) Evaluation (monitoring) by SPMT and Tongan dental staff | |
| To Improve Tongan peoples' life style by approaching from oral health and life-style modification. | • All of the staff members must comprehend oral health and NCD.  
• A half of the staffs give Tongans the lectures about Oral Health and NCD.  
• Preventive treatment receiver increase 50%, because they understand the relation between oral health and NCD.  
• 10% increase of Tongan who try to improve life-style is expected (Stop smoking, reduce salt intake, The improvement of overweight, The intake of vegetables etc.).  
• 10 % increase of Tongan who do daily exercise to prevent NCD and life-style related diseases. | |

Output:

1) Both dental and medical staff recognize relationship between oral health and NCD, and will be able to teach how to improve patients' life style (Improve the total ability of staff and establish the cooperative system)

1-1) Dental staffs must have the view point about NCD.

1-1-1) All dental staff have the view point of NCD to treat patients

1-1-2) Tooth extraction due to periodontal disease must be reduced to 50% in all oral treatments.

1-1-3) Preventive oral care patient will increase 10 %.

1-2) Trained Medical staffs must cooperate

1)  
- Research for staff and patients by interview (modification for cognition and behavior)
- Examination and evaluation of dental charts
- Case report, record for improving of life style, composed public announcement
- Field surveys and progress reports of staff.
- Evaluation (monitoring) by SPMT and Tongan dental staff

• The partnership with the Kingdom of Tonga won't collapse
| 2) Establish the oral health campaign for adolescent and adult to improve life style (early stage approach) | with dental staffs to improve Tongan’s life style.  
1-2-1) 50% of the patients with diabetes shall visit dental clinic.  
1-2-2) Receiver of dental check up will increase 10%, due to nurses’ encouragement.  
1-2-3) NCD newsletters will be compiled by dental and medical staffs.  
1-3) Description about improvement of life style will be involved in Malimali programme |
| --- | --- |
| 3) Establish the campaign to improve oral health for pregnant and nursing mothers | 2-1) Dental examination (including measurement of height and weight) shall be held annually.  
2-2) 80% of all teachers will comprehend relationship between oral health and NCD, and are able to inform and educate their students.4-4)  
2-3) Adult Tongan who reduces the risk of NCD will increase to 80% through exercise and healthy diet. |
| 4) Increase the number of Tongan supporters who will provide further knowledge of healthy life with the relationship between oral health and NCD to others Tongans. | 3-1) Conduct workshop for pregnant and nursing mothers more than three times a year.  
3-2) To conserve the healthy life of mothers and children, nurses must provide the opportunity for dental check up at their stable period.  
3-3) 80% of pregnant women who attend our seminar will try to improve the life style modification. |
| | 4-1) The number of workshops and participants about the oral health for adults (supposed to be held once a year)  
4-2) 50% of attendance of the workshops will become the leader of the life-style modification movements.  
4-3) Periodical broadcast about the oral health and NCD prevention by Tongan media (e.g., radio and television stations) |
| | Tongan dental staff |
| | 2)  
- Interview  
- Record of workshop  
- Number of examined patients, evaluation of data of dental examination |
| | 3)  
- Interview for pregnant and nursing mothers  
- Record of workshop for pregnant and nursing mothers  
- Field survey and progress report of staff  
- Evaluation (monitoring) by SPMT and Tongan dental staff |
| | 4)  
- Research for targeted group’s understanding by interview.  
- Reports of health workshop for adults  
- Field surveys and progress reports by staff  
- Evaluation (monitoring) by SPMT and Tongan dental staffs. |
5) Improvement of the life-style modification and oral health in Tongan prevailed all over the Kingdom of Tonga.

4-4) 80% of Tongan teachers will comprehend relationship between oral health and NCD, and are able to inform and educate their students.
4-5) Government officers execute the oral health and life style modification as their government campaign.

5-1) Numbers of holdings and participants of the oral and NCD health workshop.
5-2) Number of the seminars, festival and event which were held, and number of attendant.
5-3) Number of campaign newsletters and self-management tools.

5) Reports of health festivals
   Field survey and progress report of staff

### Activities:

<table>
<thead>
<tr>
<th>Japan side</th>
<th>Tonga side</th>
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<tbody>
<tr>
<td><strong>1)</strong> Both dental and medical staff recognize relationship between oral health and NCD, and will be able to teach how to improve patients’ life style</td>
<td><strong>Human resources</strong></td>
</tr>
<tr>
<td>1-1) To evaluate progress of awareness about life style modification, questionnaire type survey will be performed at pre-, middle- and post programme.</td>
<td>Dentists</td>
</tr>
<tr>
<td>1-2) Conduct workshop for both dental and medical staffs to obtain the knowledge about the relationship between oral health and NCD.</td>
<td>Dental hygienists</td>
</tr>
<tr>
<td>1-3) Technical workshop for dental staff to obtain the skill of periodontal examination and prevention of PD.</td>
<td>Faculty staff of Dental School</td>
</tr>
<tr>
<td>1-4) Medical staff provide the opportunity for dental checkup for pre-NCD patients.</td>
<td>Medical doctors</td>
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<td>1-5) Compile booklet and brochure about</td>
<td>Nurses</td>
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</tbody>
</table>

**[Human resources]**

- SPMT staff
- Dentists
- Dental hygienists
- Faculty staff of Dental School
- Medical doctors
- Nurses
- Officers

**[Equipment]**

- Personal Computer
- Dental camera
- Mobile phase-contrast microscope
- Dental equipment
- Treatment and prevent instrument for periodontal disease
- Instrument for dental examination
- Equipment of educational campaign
- Scales for weight, height, BMI chart and Mirror
- Equipment for saliva test

**[Human resources]**

- Ministry of Health
  - Dental staff
  - Dental hygienists
  - Malimali program team
  - Malimali kindy team
  - Medical staff
  - Medical doctors
  - Health officers
  - Health nurses
  - Reproductive nurses

- Government officers
- Ministry of Education Staff Teachers

**[Equipment]**

- Allowance for utilise dental unit in the clinic

**[Institution]**

- Ministry of Health

**Pre-conditions:**

- It won't be able to keep campaign due to hurricane or earthquake
- It won't be able to keep campaign due to sudden illness of staff
1) Establish the oral health and NCD campaign for Tongans. (Creation of a public-relations media: Leaflet and Poster)

1-6) Periodontal disease must be included in. Dental treatment.

1-7) Compile case reports to educate dental staff as well as patients.

1-8) Life style modification must be included for Malimali programme.

1-9) Get opinions from non-participant and those who stopped to attend this programme.

2) Establish the oral health campaign for adolescent and adult to improve life style (early stage approach)

2-1) To evaluate transformation of awareness and behavior of junior and senior high school students, questionnaire type survey will be conduct at pre-, middle- and post programme.

2-2) Cooperate with Ministry of Education to confirm the detail of action.

2-3) Conduct workshop about the oral health and life style improvement for adolescent (Program: health investigation, self body check by large mirror, Radio calisthenics, chewing exercise)

2-4) Dental checkup at grade one, three and five (including the measurement of height and weight)

2-5) Provide appropriate support to improve life style.

2-6) Get opinions from non-participant and those who stopped to attend this programme.

3) Establish the campaign to improve oral health of pregnant and nursing mothers.

3-1) To evaluate transformation of

<table>
<thead>
<tr>
<th>Miscellaneous</th>
<th>Conference room</th>
<th>Dental clinic</th>
<th>Medical clinic</th>
<th>Health Centre</th>
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<tbody>
<tr>
<td></td>
<td>Ministry of Education</td>
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<td></td>
<td>Junior High and High School</td>
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<td></td>
<td>Conference room</td>
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<td>Market (public square)</td>
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<td>Church</td>
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awareness and behavior about oral health and life style modification, questionnaire type survey will be performed at pre-, middle- and post programme.

3-2) Cooperate with dental staff, health staff, reproductive nurses and so on to confirm the detail of action.

3-3) Conduct dental examination and oral health workshop for pregnant and nursing mothers.

3-4) Place educational brochure, and install large mirror, scales for weight and height at health center to provide the opportunity for self-evaluation.

3-5) Provide appropriate support to improve their life style.

3-6) Get opinions from non-participant and those who stopped attend this programme.

4) Increase the number of Tongan supporters who will provide further knowledge of healthy life with the relationship between oral health and NCD to others Tongans.

4-1) To evaluate the transformation of awareness and behavior about oral health and life style modification, questionnaire type survey will be performed at pre-, middle- and post programme.

4-2) Cooperate with president of institution to confirm detail of action.

4-3) Place educational brochure, and install large mirror, scales for weight and height at health center to provide the opportunity for self-evaluation.

4-4) Malimali programme team conduct workshop about oral health and life style improvement for adult.

4-5) Provide appropriate support for life style modification.

4-6) Get opinions from non-participant
and those who stopped to attend this programme.

5) Improvement of the life-style modification and oral health in Tongan prevailed all over the Kingdom of Tonga.

5-1) Include the description about prevention of PD and life-style modification to the activity of Oral Festival.

5-2) Confirm the detail about our action. Especially coordination with Malimai programme team and medical staff is important.

5-3) Place educational brochure, and install large mirror, scales for weight and height at health center to provide the opportunity for self-evaluation.

5-4) Conduct health festivals.

5-5) Get opinions from non-participant and those who stopped to attend this programme.