



2014  
International Year of  
Family Farming

COOPERATIVE  
RESEARCH AND  
EXTENSION  
COLLEGE OF MICRONESIA-FSM  
YAP CAMPUS  
ISSUE 1, 2014

*Vegetable gardening has the potential as an environmental approach that not only improves nutrition and physical activity but also serve as a mechanism to influence public on obesity prevention by increasing awareness in the community.*

*Read more...*



# AgKnowledge

## Quarterly Newsletter

### Expanding Waistline

#### The Obesity Epidemic in the Federated States of Micronesia

On May 29, the prestigious medical journal, *The Lancet*, published an article based on the study “Global, regional and national prevalence of overweight and obesity in children and adults during 1980-2013: a systematic analysis for the Global Burden of Disease Study 2013,” conducted by the Institute of Health Metrics and Evaluation at the University of Washington. It looked at the prevalence of excess weight and obesity

among children and adults in about 188 countries, spanning a period between 1980 and 2013. The results show a striking rise in people's

weight over the last three decades. The study paints a frightening portrait of the obesity pandemic in the Federated States of Micronesia. The FSM has now a rare distinction of one of the 7 countries in the world where the prevalence

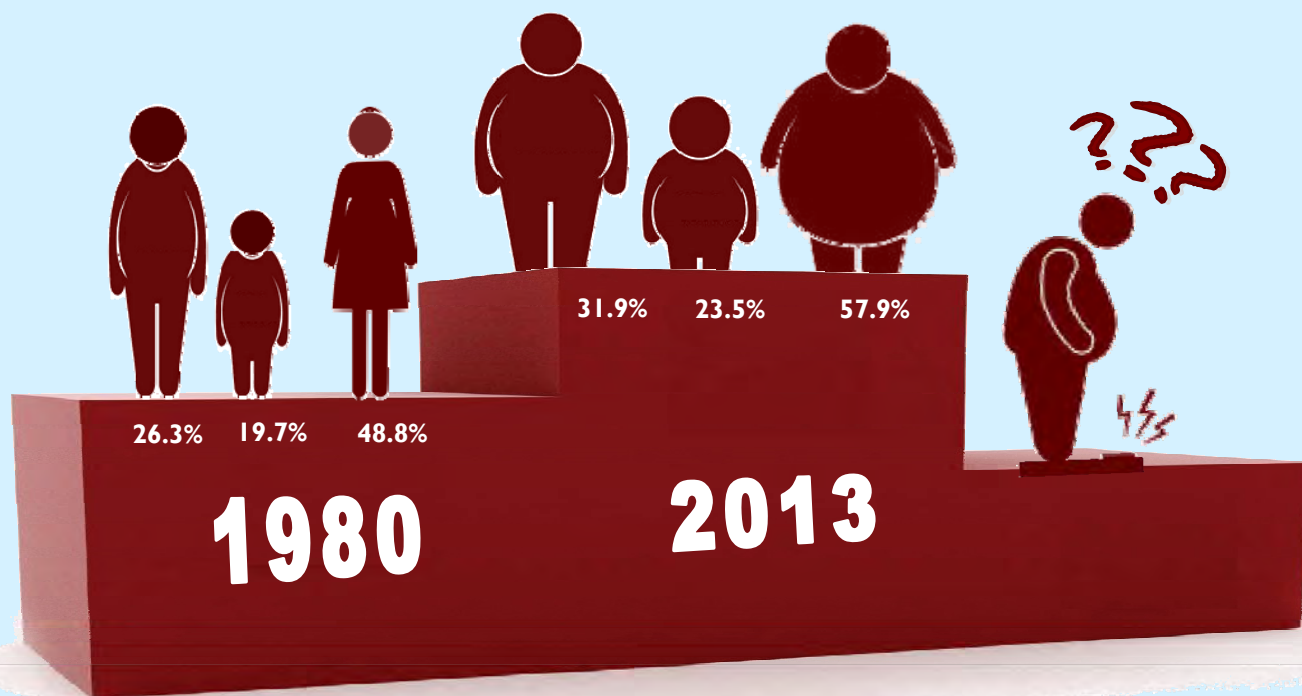
of obesity of women exceeds 50% (other countries include Tonga, Kuwait, Kiribati, Libya, Qatar and Samoa). In the Pacific Islands, nearly 44% of men and more than 51% of women are overweight or obese. Tonga had the dubious distinction of having a majority of the adult population considered obese.

The rise in prevalence of overweight and obesity in several countries over the last three decades has been substantial and widespread, presenting a major global public health epidemic in developing and developed world. Not only is obesity increasing, but no national success stories have been reported in the past 33 years. To counter the impending health effects on populations, the report says, urgent

leadership is needed to help countries more effectively intervene against major determinants such as excessive calorie intake, physical inactivity and active promotion of food consumption by industry, all of which exacerbate an already problematic obesogenic environment.



# The Weight of the Nation



**OBESITY AND OVERWEIGHT OF ADULTS AND CHILDREN IN THE FSM INCREASED SINCE 1980**

**THE FSM IS ONE OF THE 7 COUNTRIES IN THE WORLD WHERE PREVALENCE OF OBESITY EXCEEDS 50% IN WOMEN**

**OBESITY AND OVERWEIGHT CONTRIBUTE TO:**



**CARDIOVASCULAR DISEASE**



**DIABETES**



**CANCER**



**JOINT PAIN**

## The weight of the nation - It's Not All about Size

According to the above study, in the FSM, the proportion of overweight and obesity combined adult men and women (20+) were 67.6% and 84.3% respectively in 2013 whereas proportion of obese (Body Mass Index of 30 kg/m<sup>2</sup> or above) adult men and women were 32% and 57% respectively. The related health risks associated with being overweight and obese are striking. Global burden of diseases, injuries and risk factors study of 2010 reveal that in terms of the number of years of life lost due to premature death in the FSM, diabetes, cerebrovascular disease and ischemic heart disease were the highest ranking causes. The leading risk factor in the FSM continues to be high body-mass index.

## Obesity – A Growing Problem

Obesity has multiple interacting causes including biological, genetic, behavioral, and social factors. At the most simplistic understanding, weight gain is due to energy intake (through calorie consumption) exceeding energy expenditure. When this occurs, excess energy is stored as fat, leading to obesity. While this is true, it masks the more complicated picture about how energy is acquired and used. Today, traditional foods of the islands have been replaced by rice, flour, sugar, refined foods, and fatty meats such as corned beef, turkey tails, and spam due to many interrelated factors such as convenience, affordability, taste and prestige. The people have an easier time of eating these junk foods that have a high calorific value but little nutritional value. This nutrition transition along with reduced energy expenditure has contributed to the rise in obesity epidemic. And along with obesity comes a higher prevalence of diabetes and hypertension. These modern epidemics cause suffering due to amputations and increased risk of blindness, stroke, nerve damage, kidney disease, and heart attacks among other ailments.



### DESIGNED FOR DISEASE

Studies show that low-income groups have a greater tendency to consume unbalanced diets and have low intake of fruits and vegetables. This leads to both under-nutrition (micronutrient deficiency) and over-nutrition (energy over consumption resulting in overweight and obesity).

## Tackling obesity – A Heavy burden

When low-income families do not have enough money to buy needed food for their families, they adopt a deliberate strategy to stretch their food budget, such as purchasing low-cost, more energy-dense foods that tend to contain higher amounts of fat and sugar and lower amounts of important nutrients. Factors influencing food choice here not only based upon individual preferences, but are constrained by circumstances that are social, cultural and economical. These disadvantaged groups face specific challenges when attempting dietary change and therefore, solutions need to be specifically targeted. However, if you're at risk of becoming obese, currently overweight or at a healthy weight, you can take steps to prevent unhealthy weight gain and related health problems (see page 4).



## Vegetable Gardening – Learn to Lean

Of all the obesity prevention strategies - such as choosing a healthy diet, cutting back on the foods high in solid fats, added sugars and salts, and eating the right amount of calories - no other activity is so enthralling, happy and healthy than being physically active and engaged in vegetable gardening. It is one of the options that allow low-income families to gain increased access to nutritious foods and opportunities for child and adult physical activities in the community. Vegetable gardening has the potential as an environmental approach that not only improves nutrition and physical activity but also serve as a mechanism to influence public on obesity prevention by increasing awareness in the community. Active participation in vegetable gardening activities will stimulate consumption of more

fruits and vegetables. Garden-based nutrition intervention programs can promote increased fruit and vegetable intake among children which, in turn, positively impacts their learning process. And when healthy students make better students, we all win.



**Gardening is a great way for older adults to meet their daily 30 minutes of moderate-intensity physical activity. Among the health benefits of gardening is keeping older hands strong and nimble while improving self-esteem.**



**All the physical activities that goes with gardening leads to weight loss and better overall physical health. But did you know that gardening can improve your bones as well? Gardening strengthens your bones in a way similar to weight training.**



**PLANTING BURNS - 177 CALORIES**

**WEEDING BURNS - 157 CALORIES**

**DIGGING BURNS - 199 CALORIES**

**GARDENING IS GREEN EXERCISE**

A vegetable garden is more than a place for growing food. It is a place for you, your family and friends to gather, learn and work together to create something beautiful, useful and healthy. This doesn't discount the importance of the food that comes out of a vegetable garden. Not only is it as fresh as possible, it is also nearly as local as it can get. This will shorten food miles and eventually contribute to re-

ducing carbon footprint.

Vegetables gardens serve as a way for people to connect each other with the source of food. Kids love the idea of eating something they grew, and you can develop deeper appreciation for what you eat and where it comes from. Vegetable gardening also teaches you about the importance of nourishing the soil and recycling nutrients and organic matter by composting. Organic matter that ends up in landfills creates methane, a powerful greenhouse gas, and robs us of nutrients that could be put back into the soil. Small lessons like this will turn vegetable gardening into a powerful learning opportunity for people of all ages.

Vegetable gardens can also bridge hunger gap. For low-income families who do not have money or access to enough food, growing a variety of fruits and vegetables give power to make healthier food choices and eliminate hunger. Making healthier food choices is a crucial part of tackling the obesity epidemic and working to reduce the incidence of diabetes and other obesity-related diseases. Vegetable gardens will give you an opportunity to get outside and be more active while exposing to the building blocks of healthy eating. Vegetable gardening is green exercise!



The Year 2014 is designated as the **International Year of Family Farming** to bring attention and recognition to the family farmers who are helping to nourish us. Step out and start vegetable gardening today. You can influence your health and protect the environment by planting nutrient dense foods in your yard or in containers on your patio, if you are living in an urban setting. Whether it is part-time or full-time, working alone or with family and friends, you can fit food production into your life. While the beauty of flowers blooming, vegetables ripening, and happy people working together is certainly reason enough to garden, taking part in eliminating hunger and confronting obesity sweetens the deal.

See what's possible. Do what's practicable. Ask us, we will show you how to turn your patch of land or patio into a food factory!



Dr. MURUKESAN KRISHNAPILLAI  
RESEARCHER/EXTENSION SPECIALIST  
COOPERATIVE RESEARCH AND EXTENSION  
COLLEGE OF MICRONESIA-FSM  
YAP CAMPUS

Tel: (691) 350-4319/5752

*College of Micronesia-FSM Cooperative Research and Extension program is funded by the National Institute of Food and Agriculture, United States Department of Agriculture through College of Micronesia Land Grant Program. The College of Micronesia-FSM is an equal opportunity employer.*



**Urban agriculture** is a method of transforming underutilized or neglected space into a resource providing opportunities for social interaction, greater community cohesion and self-sufficiency, and engagement of people in underserved neighborhoods. It connects people to opportunity so that they move from stagnant, difficult conditions to vibrant and productive lifestyles. It offers a pathway out of poverty. It has low start-up costs, short production cycles, and high yields per unit of time and unit of area and water. Value of leafy green vegetables to combat nutrient deficiency is irreplaceable and irrefutable. The urban agriculture has also potential for primary or supplemental income.



Vertical Pallet Grower



Vertical Bottle Grower



Vertical Polybags Grower



Wooden Tray Grower