

# RUNIT DOME: THE NUCLEAR WASTE TOMB OF THE MARSHALL ISLANDS

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*Abstract: Marshall Islands is a nation among other tiny Pacific nations. It has been a colony under United States of America and was used as a site for testing of nuclear weapons. From 1948 till 1968 total of 67 detonations have been carried out. This has led to severe contamination of the whole nation especially the Bikini and Enewatek atolls. The atolls had to be evacuated permanently but still the effects were of serious nature which was inflicted on the population. Within the Bikini atolls there is a small island of Runit where a dome has been made to contain the nuclear waste which has been accumulated over the years and Marshall Islanders are afraid that leakage has developed all over the dome which will eventually seep into the sea as a result of the sea level rise and the environment will be affected beyond imagination. Sea life will be contaminated which will take a heavy toll on the economic well-being of the people as it's their source of income. U.S is appealed by the International Court of Justice (ICJ) to keep its promise of providing appropriate aid through monetary compensation, cleaning up the mess created and to restore the natural habitat. But U.S's actions have been very controversial where the Marshall Islands accused them of not keep their initial agreement of all the above mentioned schemes.*

Index Terms - nuclear waste, Pacific Islands, pollution, contamination, radiation, displacement, environmental degradation

## INTRODUCTION

With the Cold War (1945 onwards) the world ushered upon the nuclear age. The period witnessed a savage use of nuclear bomb on Hiroshima and Nagasaki which jolted the humanity about the destructive nature of such a weapon. As the world progressed so did the atomic experimentation in order to nuclearize the weapons with a sole target to secure the position of the 'most powerful' nation. However as it is known United States of America holds the honour of the title. But other nations too are not behind in the race. With the competition growing tough day by day the countries are investing heavily on nuclear power. But such an endeavor has a hefty price too. The more the world takes a step towards modernizing weapons with nuclear power the more it destructs the environment causing to the catastrophic consequence of Climate Change (CC).

What a nuclear disaster looks like is not unknown to us. Starting from the bombings of Hiroshima and Nagasaki to Chernobyl and Fukushima, nuclear disaster is something which reflects nothing but horror and its effects are beyond imagination. At present 'the talk of the town' while discussing a possible nuclear disaster is of the Runit Dome in Marshall Islands of the Pacific. This island has been a 'lab rat' for US nuclear testing during the 50s when the bid to secure and stabilize the position of the most powerful nation was at its peak. Total of 67 nuclear and atmospheric bombs were detonated on two of the largest atolls of Marshall Islands namely Enewetak and Bikini sometimes from 1945 to 1958. These two atolls were the main sites for testing of the United States Pacific Proving Grounds<sup>1</sup>. Almost a dozen of nuclear testing happened there. These were chosen for the fact that they are very remotely situated with a very negligible population and also they are distant from major shipping lanes. The populations which were residing near this island were evacuated almost around 300 kilometers away (The Guardian 2015). "The Republic of Marshall Islands (RMI) consists of 29 remote coral atolls, each made up of small islets, and five single islands in the North Pacific Ocean region. These atolls are spread out over an area of approximately 750,000 million sq km, and consist of approximately 1,000 individual islets. The atolls are low-lying, averaging only

<sup>1</sup> Pacific Proving Grounds was the name given by the United States Atomic Energy Commission on July 23<sup>rd</sup>, 1947 to a number of islands and atolls of Marshall Islands and other Pacific Countries to conduct nuclear testing between year 1946 to 1962

about 2 meters above sea level and making up a total of 181 km<sup>2</sup> of land area. Generally, the atolls are long and very thin stretch of land, in which it is often possible to stand in the lagoon and see the ocean on the other side. As such, there are relatively few, if any, places of substantially varying or higher elevation. Prior to independence, RMI was a United Nations Trust Territory administered by the United States of America. Since RMI declared its independence on October 21, 1986, the current political system consists of democratic with executive, legislative, and judicial branches. RMI was admitted as member of the United Nations in 1991. RMI's population is estimated to be about 60,000 inhabitants. The capital of Majuro, located on the Majuro Atoll, is densely populated with a population of about 25,400. It is facing many environmental challenges, including inadequate supplies of potable water and pollution of surface water from household waste" (Muller, 2009).

## THE MAJOR ENVIRONMENTAL CHALLENGES

The environmental challenges are due to the CC which can bring with another possible nuclear disaster that is the wreckage of the Runit Dome which presently holds about 111,000 cubic yards of toxic nuclear waste into its 18 foot cap. The sea level rise as a resultant effect of CC can possibly lead to the spilling of the entire toxic waste which has been accumulated over a period of 12 years. There have been approximately 300 nuclear test detonations throughout the Pacific from 1946 to 1996 which had taken a heavy toll on the fragile ecology of the region. The population has been inflicted with severe consequences where their health, habitat and livelihood received a considerable backlash. The most serious effect has been the health of the islanders. Epidemics of cancers, chronic diseases and congenital abnormalities were started to grip the population as a result of the radioactive fallout which happened because of the test detonations. Not only does the harmful gamma rays but the alpha and beta particles as resultant formation of the depletion of the plutonium spread to the islands and its suburbs contributing to the spread of such malignant diseases and defects. The lands and the sea on which the livelihoods of these islanders depend are contaminated beyond imaginable. Some of the atolls were so unsafe that that it became unsuitable for habitation farming and fishing. People have been permanently displaced from their homes and their old ways of living which led to untold suffering and pain. The Pacific Islanders are of the opinion that this whole nuclear program has been destroyed beyond repair. By no means can the islands which has been a home to all these people can restored to its undefiled state. The worst part of the situation is that the harmful radiation has affected the DNA of the people which means that not only the current generation but the future generations will bear the toll on them as well.

Marshall Islands is already dealing with the effects of CC and as it is categorized under Small Island Countries (SMC) group it is fairly understood that the effects are quite heavy in nature. As such "the Republic of the Marshall Islands made a detailed submission to the UN Human Rights Commission in December 2008, documenting and analyzing the implications of climate change upon a wide range of social, economic and legal characteristics of the nation. In summary, the report concluded that the reclassification of Marshallese as a displaced nation, or, loosely defined, as 'climate refugees,' is not only undesirable, but also unacceptable as an affront to self-determination and national dignity. It is unlikely that larger nations, with greater political power, would easily accept such a fate for their political boundaries and peoples. The Human Rights Commission national report detailed present and near to long-term climate impacts upon housing, food, water, nationhood and health. Forthcoming data and treatment will also be addressed by the Republic of the Marshall Islands in its second National Communication to the UNFCCC" (Muller, 2009). However the United States government has been quite unsuccessful in constructing repositories in order to contain the nuclear waste. It is to be noted that there are instances where projects have been abandoned out of concern that the safety standards of radiation could not be contained for almost one million years. There have been accidents which led to shut down of nuclear plants.

Now while Runit Dome is concerned the United States built a repository of all the plutonium waste which was accumulated in the late 1970s according to the Nuclear Waste Policy Act in 1982<sup>2</sup> without any sort of extra cautious measures to contain it, while granting it independence. As a matter of fact it did not bother that the culminated effect of CC was clearly visible with a considerable rise in sea level and that it could lead to wreckage and seeping of those toxic wastes into the sea. Already the people of Marshall

<sup>2</sup> The Nuclear Waste Policy is a federal law in United States which established a comprehensive national program for safe and permanent disposal of highly radioactive nuclear wastes. However the first forty years of waste disposal is unattended to and there was no such legislation enacted for their disposal.

Islands has endured sufferings due to the notorious test detonations in the region and what should be concerning to the world is that they are did not deserve such tragedies. Atolls of Bikini and Enewetak were of the ones which were the worst affected. According to the studies Bikini was not at all suitable for habitation but Enewetak could be brought back from it messed up state and made habitable. But it is quite debatable of the fact whether these places can be ever re-made into habitable atolls again because the plutonium debris and other radioactive parts are still scattered all over the region which can hardly be cleaned off (Gerrard, 2014). Now here is the debate that when there has been so much caution and so much effort to safeguard the contamination inside the country then why there is a mere casual attitude for the ones outside. It has to be very well understood that nuclear toxic contamination will not hold back in a particular area, in Marshall Island for example in this case. If not dealt with proper caution the contamination will spread to the oceans and oceans are practically everywhere. The effects will not spare any country. Yes of course there might be this thought that the crisis will hit US probably at the last but it will definitely. But here is the part which is not much highlighted in this issue but which should be talked about nevertheless is about those military American personnel who worked in these islands amongst the highly toxic environment. The soldiers posted in these islands were the ones who were directly exposed to such toxic elements. They are the ones who were present during the detonations and years after that collecting the waste and containing it in the Runit dome. As a matter of fact it is them who have been in direct contamination with the toxins and they have paid the price. According to the reports most of them died of cancer and rest are suffering from either cancer or other deadly diseases of which some are congenital and are passed down to the next generations leading to deformities in their physiology just like the Hiroshima and Nagasaki victims (The Guardian, 2015). Marshall Island records the experience and opinion of reporter Mark Willacy who visited the place and took into account of each and every details of the situation there. He is of the opinion that there is a difference in the way the nuclear waste is treated during the Fukushima disaster and in Marshall Island. In the former case Japan was responsible for the crisis and Fukushima was heavily populated hence the reforms are in that “level and priority”. Marshall Islands being consist of atolls with scarce population and in a relatively remote location it seems that no one cares about what happens to these places (Killalea, 2017).

The human activities as overfishing, improvement of standard of living and urban development which are exerting a lot of pressure on the environment not only of Marshal Islands but also on the whole of the Pacific region. The report has categorized certain drivers which have been identified as to having the most influence on the gradually degrading environment of the Island. They are as follows:

1. Density of population and migration
2. Geography and globalization
3. Development in economy and technology
4. Traditional and contemporary attitudes, values, lifestyles and governance
5. Climate Change and its variability

The report has been clearly sending out concerns about the ocean and marine life which is the main source of sustenance of the people of the Pacific. But plastics, marine debris are having negative impact on the livelihoods of the people by polluting the ocean thus pressurizing the fisheries resources. Thus by roughly going through the report it can be easily deducted about how much the radiation affected part of Marshall Island can be toxic and to what extent of misery it has and if speculation of nuclear waste spill happens, will bring upon the people of the area (Marshal Island State Island Report, 2016). Johnston and Takala (2016), went on to term the notorious US nuclear, biochemical and missile testing as an ‘enterprise of scientific colonialism’ through which it has risked a whole population’s environment and health. It has to be in their moral obligation to correct the wrong that has been done on those people’s home which was a ‘paradise’ once but now a ‘poisonous’ place which is unsuitable for habitation and sustenance. But it is seen that US has turned a cold shoulder and tried to wash their hands off this mess just by building an unsafe and fragile depository for the toxic waste of nuclear and hydrogen bomb testing. In fact there was a military expedition of soil, water, vegetation and animal samples being collected and experimented to find out the level of contamination. The reports of those tests confirmed that the level of fallouts of the toxic radioactive materials were at a dangerously high level. Radiation sickness<sup>3</sup> was evident but the US military left the residents nevertheless in situ without any proper medical attention, proper utilities to cope up with such crisis and most importantly no advice or helping aid to furnish them with knowledge to reduce further

<sup>3</sup> Radiation sickness describes the harmful effects like acute, delayed, or chronic health conditions produced due to the exposure to ionizing radiation (National Organization of Rare Disorders, <https://rarediseases.org>)

exposure. Instead of helping them they became subjects for a classified Project 4.1 which happens to be a human radiation program where the people were given subject numbers, photographed, catalogued and experimented without nay consent. The project was carried out under different names from 1954 to 1992. Now the results of these experiments brought out several disturbing truths about the health effects of radiation exposure. The exposure generates changes in red blood cell production, metabolic disorders, musculoskeletal disorders, congenital defects, cancers and leukemia, sterility etc. the acute radiogenic exposure also brings down the immune system response thus making the population vulnerable to non-treatable diseases. “That dome is the connection between the nuclear age and the climate change age,” Marshall Islands climate change activist Alson Kelen told ABC Australia<sup>4</sup>.

## THE FILING OF THE LAWSUIT

After experiencing a lot involving health degradation to loss of homes Marshal Islands filed a lawsuit in the International Court of Justic (ICJ) again the American Government of destroying their homeland, exposing them to lethal radioactive elements and for not holding up to the bargain or obligation to provide aid to the affected parts of the island country and just abandoning them. Section 177 of the Compact of Free Association between the Republic of the Marshall Islands and the U.S. provides that “The Government of the United States accepts responsibility for compensation owing to citizens of the Marshall Islands for loss or damage to property and person of the citizens of the Marshall Islands resulting from the nuclear testing program which the Government of the United States conducted in the Northern Marshall Islands between June 30, 1946, and August 18, 1958.” Section 177 goes on to say that the U.S. and the RMI “shall set forth in a separate agreement provisions for the just and adequate settlement of all such claims which have arisen in regard to the Marshall Islands and its citizens and which have not as yet been compensated or which in the future may arise.” It also required that the U.S. “provide to the Marshall Islands, on a grant basis, the amount of \$150 million to be paid and distributed in accordance with the separate agreement...”<sup>5</sup> The highly toxic waste which is the resultant of the 67 nuclear test detonations placed in the crater in the dome of Runit island is deteriorating day by day yet there has been no effort to minimize the threat. What is more disturbing is that United States itself will not allow a facility as such to be built within its geographical limits but the agreement is made in a way to control facilities likewise in Marshal Islands. The Agreement further corroborated into a provision which allows the U.S to use the radiological survey conducted in 1978 to estimate radiation related health consequences of those people who resided in Northern Marshall Islands after 1978. This tactics conveniently ignores any kind of acknowledgement of radiation related health consequences out of having resided in those atolls all throughout and this part of the Agreement is more like a ‘classic trick of the illusionist’. Adding to all of these problems is that because of the nearby waters being polluted out of radioactive substances leading to a halt in production of sea catch like fish and other sea products which are the basic source of income for the islanders. In fact these sea products are banned in the international market and also for the local people to consume. Now here is another issue which has to be looked into. United States is supplying tinned and canned foods to Marshall Islands in a bid to uphold the Agreement of providing aid and compensation to the people affected. The compensation is approximately 147 dollars per month. Now the people both displaced and affected are receiving money from the trust as directed by the ICJ and spending them on the food products imported by the U.S which are not healthy because tinned and canned foods are processed and are quite hazardous to the health in the long run.

## CONCLUSION

The case of Marshall Island is classic case of American hegemony. In a bid to have its grip over Marshall Islands which provide a safe haven for its experimentation with deadly weapons in order to keep its arms race afresh and continue to stock up its arms pool for staying up as the most ‘powerful’ nation. During the process it does not matter who gets trampled under their endeavor. There is no consideration of humanity or of that matter what happens to the environment. Marshall Islands was a colony of U.S which had its independence during the 80s under the Compact of Free Association Act of 1986. But what can be seen in the years that went by Marshall Islands have never been loosened from the grip of U.S. The kind of contamination that they left on the island was a pretext enough to continue its hold on the island nation

<sup>4</sup> <https://www.globalcitizen.org/fr/content/enewetak-atoll-marshall-islands-nuclear-climate-ch/>

<sup>5</sup> Compact of Free Association Treaty was signed between Marshall Islands and United States of America in 1985 and came to force in 1986. See more - <https://www.doi.gov/oia/about/compact>

through aid and other services. The whole process however is kind of ‘whole in the bucket’ where one has to keep pouring water to keep it filled. United States made it a point to keep benefitting in a different way if not getting its nuclear arsenal tested through the imported food and other basic rations in the country whose price is way higher than the compensation provided by them to the people. Marshallese people have understood the situation thus they sued United States in the ICJ on charges of not honouring the Arms Control Act 1961<sup>6</sup> and for the destruction of their habitat and livelihood. Through the Marshall Islands Nuclear Claims Tribunal there were strategies adopted to bring down the risk of further environmental degradation along with land to grow healthy and safe food and enhancing family and community health. Costs to restore these were calculated but the lack of funding as it is already mentioned from the US to implement this Tribunal made the lives of the Marshallese even more difficult. According to the 2012 Mission Report and Recommendations from UN Special Rapporteur for Environmental Contamination and Toxic Waste<sup>7</sup> and reconfirmed in the 2014 Universal Periodic Review of the Marshall Islands conducted by the UN Human Rights Council, the environment, health and human rights issues associated with nuclear testing and other facets of military colonialism are compounded by the increased needs resulting from the increase in climate change-related disasters. These reports are strong enough to call US to fully fund and aid according to the directions of the Nuclear Tribunal. It is also an appeal to the international community of the nations to identify their responsibility and obligation to the kind of harm the people of Marshall Island dealt with under the United Nations Trusteeship, when governance was entrusted to the United States because the people of Marshall Island has the every right like the rest of the world to live in a healthy clean environment.

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<sup>6</sup> The act was signed in 1961 in order to reduce and control armaments and setting a goal towards establishment of peace. See more - <https://www.gpo.gov/fdsys/pkg/STATUTE-75/pdf/STATUTE-75-Pg631.pdf>

<sup>7</sup> [http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session21/A-HRC-21-48-Add1\\_en.pdf](http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session21/A-HRC-21-48-Add1_en.pdf)