Food production

2.4 Resource production and management 2.4.1 Food	Name: Sujab Bhusal Name: Emma Baltide	SGAC Group: SSSPG

2.4.1 Food

For the survival of living being food is most necessary. For the residents of 1 million people, we can't import food from the earth. we had to cultivate crops over there in mars. The major challenge for us is to grow crops over there on mars soil. It could be tough to cultivate crops like on earth with traditional farming. We had to adopt new ways of farming over there. Aquaponics, hydroponics, and 3d printing may be good choices. 3d printing also may be inefficient so hydroponics and aquaponics, the method will be best.

What is aquaponics?

It is simply keeping fish at work. The work that fish performs (eating and producing waste) will be perfect fertilizer for growing plants. we don't have to use harmful petrochemicals, pesticides, or herbicides. The best thing is we can grow plants and fish at the same time. The products from the aquaponics method are highly nutritious and there is no chance of wasting the water. As we had mentioned the method of production of water we can adapt this method of farming instead of soil farming. Besides this, we can also cultivate some special plants having special purposes. Plants like Aegle marmelos, Acanthopanax senticosus Harms,Ageratum conyzoides L, Allium cepa L, Allium sativum L. Gaertn,Aloe arborescens, Archangelica officinalis Hoffm, Angelica sinensis (Oliver) Diels, Amaranthus paniculatus, Curcuma longa Linn.Emblica officinalis, Hippophae rhamnoides, Hypericum perforatum,Centella asiatica,Glycyrrhiza glabra L., Hypericum perforatum, Lycium chinense having radio-protective properties and Plants with immunomodulatory properties like Withania somnifera, Morus alba ,Sophora subprosrate, Acacia catechu, Jatropha curcas, Achillea wilhelmsii, Picrorhiza Scrophulariiflora, Plantago asiatica, Caesalpinia bonducella, Cynodon dactylon, Terminalia arjuna, Schisandra arisanensis. We can also adapt the hydroponics method. From the data of an experiment conducted by an example of lettuce production in Yuma, Arizona, USA, Hydroponics offered 11 ± 1.7 times higher yields but required 82 ± 11 times more energy compared to conventionally produced lettuce. But comparing these two methods the aquaponics method will be easies, sufficient, and sustainable for a huge number of people.

References:

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