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LEARNING FROM THE RICH HISTORY OF APAC REGIONS FOR FURTHERING HUMAN SPACE
EXPLORATION

Abstract

The Asia-Pacific (APAC) region has played an important role in the scientific and cultural development of human civilization since ancient times, through several thousand years of history which has the potential to inspire future space missions, from the perspective of creating sustainable societies.

As of today, the APAC region already boasts of a few highly accomplished space agencies such as ISRO (India), CSA (China) and JAXA (Japan). There are several emerging APAC countries as well who have been regularly contributing to space research in established agencies, through their human workforce in terms of scientists and technicians, and would now like to build their own agencies. For this, there is a need to identify the current state of space exploration cooperation in the Asia-Pacific region. In space research we still do not have sufficient data on humans from diverse backgrounds. There is therefore a need to extend cross-border research on the health aspect of human space exploration, dedicated research on long-term, psychological gender-related differences, Asian physiology, cultural-food aspects, etc.

The APAC region is also rich in various isolated geographical structures: from the Himalayan mountains, cold deserts, to oceanic islands. Thus, the APAC region can also serve as potential analogue mission centres as test beds on crew psychology, space health and nutrition experiments, etc. Most importantly, space research can benefit from exploiting the human resource that Asia has to offer: long history of Nomadic tribes and their survival techniques in extreme environments, cultural ideas on food such as vegetarian food in India, holistic living and mindfulness through meditation techniques. However, the APAC region also suffers from some major problems driven by geopolitics and a lack of government funding into human spaceflight.

In this paper, we present the outcomes of the subgroup on "Human Space Exploration" of the working group 4 of the Asia-Pacific Space Generation Online Workshop. We first present the rich human resource from APAC regions that can help in the further development of human spaceflight. Further, we propose recommendations for developing interest in this domain through education from grass-root level, and public engagement in schools: for example, inviting APAC-origin astronauts, curriculum development and organising easy analogue missions for children. We also recommend developing workforce in universities

through competitions such as space suit and space city design, which are opportunities to study several technical fields, and also encourage non-STEM majors.