





「伍玉龍、伍玉龍~你現在位置在哪裡?」 「明天會有暴風雪,你聽到了嗎?」

○○○年11月,七頂峰領隊伍玉龍在高達 ◯8,201公尺的卓奧友峰一度失聯23小 時,在基地營駐守的中華民國山岳協會梁明本秘書長, 不斷透過訊號微弱的收發器,嘗試與那失聯的隊員取得 ※ 建細

「還好,最後知道只是通訊設備出了問題,人是平安 的。」梁明本笑著說。

紀錄片上,幾乎每講一句話就喘一口氣的梁明本,在 這樣高海拔的低氣壓下尚須保持輕醒的腦袋,安全協助 攻頂的三位隊員上下山,這個幕後推手的職位,還真不 是那麽好當。

## 行前策劃 不只有這樣

不同於遊山玩水的旅行團,要策劃如此龐大的世界 級挑戰,除了資金的籌措,要考量的事情,還有好多好

以最後完成的世界最高峰聖母峰為例,在預測規劃與 實際狀況之間不停進行審慎考量的梁明本,所耗費的精 神心力,相較於完攀的隊員可有過之而無不及。

「其實在2008年,當他們完成卓奧友峰無氧無雪巴的 攀登淬鍊時,他們的體力已經不用我再去顧慮了。」梁明 本憶道,「而雖然聖母峰只高出卓奧友峰600多公尺,可 "Yu-long Wu, Yu-long Wu, report your location."

"A blizzard is coming tomorrow. Do you copy me?"

In November, 2008, the leader of the Seven Summit Team, Yu-long Wu, once lost contact on the 8,201-meter-high Cho Oyu for up to 23 hours. Ming-ben Liang, who was quartered in the base camp, tried to get into contact with Wu.

"Thank God. It's just something wrong with the telecommunication equipment. Wu was safe," said Liang smilingly.

In the documentary film, Liang took a breath almost after every sentence. He needed to remain clear-headed in low air pressure in the base camp to help the three team members safely complete the mission. This backstage task is far from easy.

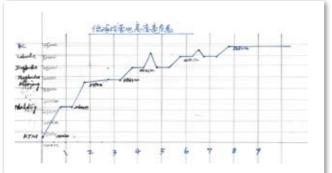
## More Than a Simple Pre-departure Plan

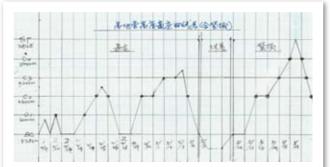
Different from a sight-seeing tour group, such a worldclass expedition team requires a lot of preparations such as raising the fund and many others.

Take the ascent to Mt. Everest for instance. Liang wholeheartedly devoted himself to deliberating upon the pre-departure plan and the actual situation. The efforts he made were no less than those of the expedition team

"Actually, since they successfully conquered Cho Oyu without oxygen supply and Sherpa's guidance in 2008, I have been assured of their stamina," Liang recalled. "Though Mt. Everest is higher than Cho Oyu by only 600









是在這樣的高海拔環境,任何狀況都是不容小覷的,所 以在團隊目標設定的規劃與執行上,跟之前的幾頂峰又 都是完全不一樣的。」

所謂團隊目標的設定,指的是當趟的完攀,欲計劃幾 個人可以執行完成。以隊員狀況及氧氣計畫來思考,此 次的攀行便配置了4名共有14年登頂聖母峰紀錄的雪 巴,以他們豐富的經驗來協助隊員的攀登,並確保其安 全性。而團隊目標計畫中所包含的氧氣裝備系統,專業 雪巴人員的請用配置等,亦都須將人力、資金、物力等 的狀況調配給考量進去。

當然,人總是要休息的,休養計畫的安排可也不得馬 虎。在高度適應行程結束後,隊員須下降到4,410公尺的 丁波切休養幾天,在儲蓄體力的同時,再認真思考與調 整攻頂的心態。另請榮總專業研究高山症狀的高偉峰醫 師,至當地與隊員會合,瞭解隊員的身體狀況,進而提 供適當的諮詢與醫療協助

meters or so, any accidents were not allowed in such a high altitude area. So, the plan and objective set up for this team were totally different from before.

To set up an objective means to estimate the number of people who can cooperate to make a successful ascent.

Concerning team members' condition and the oxygen supply plan, four experienced Sherpas were arranged to guide the team to safely ascend Mt. Everest. Including oxygen supply and equipment provided for Sherpas, matters like working staff, fund, and material recourses should all be taken into account.

It goes without saying that people need to rest. Rest plan should not be carelessly made. After adapting to high altitude, the team had to descend to Dingboche (4,410 m) to rest for a few days. While restoring strength, they could deliberate and adjust their attitude towards the ascent. Dr. Wei-fong Gao was invited to meet the team to check their physical condition and provide consultation and medical support.

- 1. 不同於遊山玩水的旅行團,要策劃如此龐大的世界 級挑戰,要考量的事情還有很多/梁明本提供 Different from a sight-seeing tour group, such a world-class expedition team requires a lot of preparations. / Photo provided by Ming-ben Liang
- 2-3. 梁明本手繪高度適應紀錄表。為配合不同成員 的體能狀態,每個安排都須經再三的細心審量 / 梁明本提供
  - The height-adaptation chart hand-drawn by
- Ming-ben Liang. Every arrangement was made with careful consideration of the fitness conditions of the team members. Provided by Ming-ben
- 4. 氧氣裝備應有多少,都要在行前的規畫中擬定 而出/梁明本提供
- The amount of oxygen equipment should be decided in the pre-departure plan./ Photo provided by Ming-ben Liang



事在人為之後,則是聽天命。除了歐都納付費取 得的氣象資訊外,另與台大大氣科學系林博雄教授合 作,由其專業的分析與指導,與「人算不如天算」的最 終關卡來與之抗衡。而利用氣象資訊的策略則是在天 氣即將轉好之時就由基地營出發往上移動,最佳天氣 的前一天設定為登頂日,預留最佳的天氣時間,讓攀 登最危險的時段-「登頂後下撤」時使用,以確保攀登 隊員的安全。

而這些,都還只能算是行前規劃,真正的挑戰,是 到了現場才正要開始。

#### 高度追求 低壓考驗

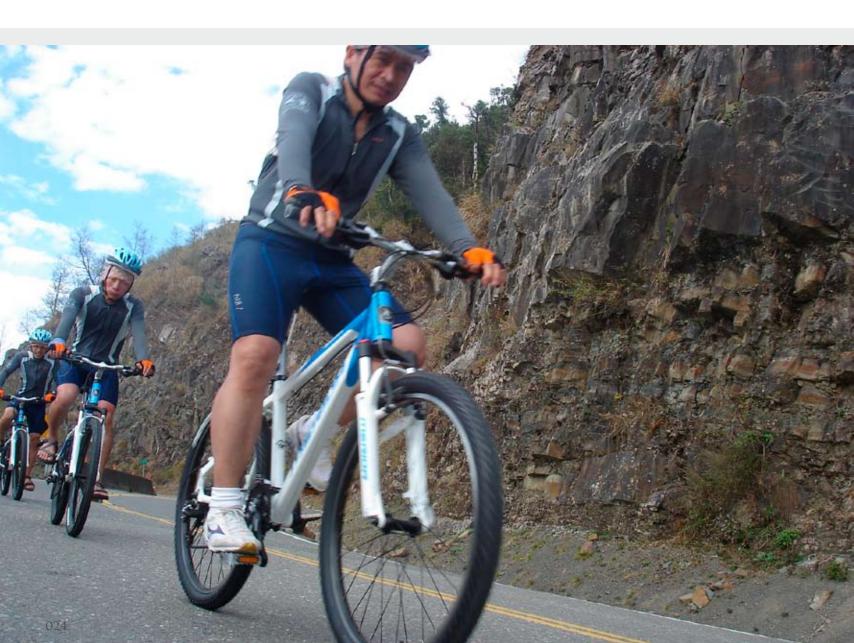
工欲善其事,必先利其器。即使有更精細的籌劃或 再好的裝置,大多數的努力還是得靠自己,因為不可

Man proposes and God disposes. Besides the weather forecast equipment purchased by Atunas, Prof. Bo-hsiung Lin of Department of Atmospheric Sciences, National Taiwan University, also joined to offer professional analysis and instructions. The weather forecast equipment assisted the team in setting the day before the finest day as the ascent day and reserving the finest time for the descend from the summit, the most dangerous period.

These were only part of the pre-departure plan. The real challenge started from the point they arrived at the site.

## **Pursue the Height, Eudure the Low**

Good tools are prerequisite to the successful execution of a job. Most of the time, climbers should rely on themselves in spite of the most elaborate plans and the best equipment provided. Plus, Sherpas cannot follow





能分分秒秒都有雪巴可以跟在後面,所以攻頂的成 功與否,還是在於挑戰者本身自有的素質與耐力。

在檢測心肺功能的過程裡,受訓者必須在跑步機上 背著30公斤的背包進行測驗。跑步機每隔3分鐘就會 坡度加高、速度加快,呼吸道前方再接個管子通往儀 器,藉以測量每分鐘的換氣程度、心跳、脈搏、血壓 與耗氧能力等,以此作為受訓者的體能經驗值參考。

而登頂的體能檢測,除了要有良好的技術、經驗判 斷與心肺調整能力,承受低溫低氧低壓的考驗更是相 當重要的。在前往聖母峰的前15天,一行人到了吳鳳 技術學院的低氧實驗室,接受模擬低壓的低氧氣濃度 訓練,甚至在低氧室裡面過夜,以加速對低壓低氧環 境的適應。一般而言,在平地空氣中的氧氣濃度約為 21%,海拔5,400公尺的聖母峰基地營氧氣相對濃度 則只有10%,再到了全世界最高8,848公尺的聖母峰 頂,氧氣相對濃度就只有7%。若一個人沒有經過長時 間低氧低壓低溫的試驗,在沒有使用氧氣的情況下, 冒然乘直昇機直抵聖母峰頂,只怕會像一隻深海魚被

climbers all the time; thus, a successful ascent depends on the challenger's personal quality and stamina.

During the process of assessing cardiopulmonary capacities, trainees have to perform treadmill walking with a 30-kg backpack on the back. The slope and speed are increased every three minutes with a tube connecting trainees' mouths to a machine to measure breathing rate, heartbeat, pulse, blood pressure, and oxygen consumption rate per minute as a reference to trainees' strength.

In addition to good skills, experiences, and cardiopulmonary capacities, the ability to endure low temperature, low level of oxygen, and low air pressure is reckoned highly essential in the strength check-up. 15 days before heading for Mt. Everest, the team underwent simulated low oxygen training in the low oxygen lab in WuFeng Institute of Technology, and even spent the night in the Lab. Generally speaking, the oxygen concentration at ground level is around 21% while the comparative concentration in the 5,400-meter-high Mt. Everest base camp is only 10% and then drops to 7% at the 8,848-meter-high summit of Mt. Everest. Without these

- 1. 在玉山上進行單車體能訓練/歐都納提供 Cycling training in Jade Mountains./ Photo provided by Atunas
- 2. 圖中血氧機顯示血中含氧量已經降到49%/歐都納提供 The oxygen sensor suggested the oxygen saturation in the blood had dropped to 49%. / Photo provided by
- 3. 為加速適應程度,進入低氧實驗室過夜的七頂峰隊員/歐都納提供 To accelerate the adaptation, the Seven Summits Team members spent the night in the low oxygen lab.
- 4. 七頂峰隊員謝穎泝接受8% 的氧濃度測試/歐都納提供 One of the Seven Summits team members, Ying-su Xie, was accepting the 8% oxygen concentration test. / Photo provided by Atunas



台灣應加強山岳保險的規劃,以給登山者更無憂的登山環境保障/歐都納提供 Mountaineering insurance should be well planned in Taiwan to provide mountaineers with care-free safety assurance./ Photo provided by Atunas

迅速抽至水面,數分鐘之内就會因適應不良而死亡。

不過,這些在台灣的訓練主要是「預為高度適應」都還是只能當作參考,因為有些受訓者在測驗時表現良好,到了當地卻反而無法適應環境,高海拔遠征除高度適應外更有許多其他的事務要加以適應,比如一聞到雪巴的食物味道就吐,一喝到他們的水就拉肚子等等。所以,真正的考驗還是在實際上山,不能把在台灣的測量當作所有的認定標準。

#### 山岳安全 從身邊做起

在台灣長年推行山岳活動的梁明本,除了愛山,更 推己及人地帶著國人遠征世界各國,推行登峰造極的 夢想實踐。而對於這樣一個山的寶島,卻沒有完整「山 岳保險」的規劃與實施,有著深深的遺憾。

梁明本表示,以日本與尼泊爾為例,攻頂攀爬時常可看見直昇機頻繁的進出基地營,因為他們將救援與醫療等都附加於山岳保險的內容中,並有醫師在聖母峰的基地營駐守,經診療後簽了同意書,保險公司便可派直昇機出動救援。

trainings, one may die in a few minutes like a fish out of water if rashly taking a helicopter to the top of Mt. Everest.

However, the training of "adaptation to high altitude" can only serve as reference since some trainees perform well in the training but eventually fail to adapt to the real alpine environment. Besides the altitude, the expedition team has to be accustomed to a lot more like Sherpa's food and water. Thus, it is the real situation that counts. The trainings and tests in Taiwan can only be reckoned as references.

# **Mountaineering Safety, Our Duty**

Liang, who has long been promoting mountaineering in Taiwan, loves the mountains and carries out his dream by taking Taiwanese expedition teams abroad to conquer the highest summit in the world. It is a shame that as a precious alpine island, Taiwan has no well-planned "mountaineering insurance" implemented.

Liang said, in Japan and Nepal, helicopters often hover over the base camp because rescue and medication are included in the mountaineering insurance. Once the doctors quartered in Mt. Everest sign medication agreement for climbers, the insurance company will send helicopters to the base camp for 「反觀台灣,去登山的人都只能保旅遊平安險。甚至超過3,000公尺以上保險公司就不受理,我們常在開玩笑說,發生山難時似乎都要先拉到2,990公尺才可以求救。」梁明本笑了笑,接著說,「除了山岳活動與教育的實踐,山岳安全的保障也是很重要的,有關單位應該要實際瞭解山岳保險對登山活動的重要性,才能讓民衆能更放心地從事各種山岳活動。」

目前台灣大多數的主要山脈都已畫入國家公園的範圍中,其實入園爬山的人都很單純,主要都以遊憩休閒的目的為主,也喜歡找坊間的登山服務公司來辦理規劃,然而時見有嚮導在排雲山莊烹煮團隊食物時,並不完全遵守園内規定,可見多數的外在團體對於園内的規範,都還不是那麼的清楚與配合,須多加給予適當的規範與指導協助。

梁明本認為,國家公園對於山岳教育的實施,除物種的保育外,並應對登山服務團體制定出一套良好的規範, 才得以實踐上行下效(登山團體與民衆間)的影響力與改善。

山嶺有萬種面貌,如同登山有著不同的深層學問。可以 是自己爬上頂峰的體驗,可以是他山之處的學習,也可以 是幕後的推行與策劃。與山學習的東西用之不盡,光是將 自身準備好並不足夠,能與他人交流經驗進而互相成長, 才是在近山的收獲上最無價的寶藏。 (2)



"But in Taiwan, climbers can only purchase travel insurance which does not cover the ascent to 3,000-plus-meter-high mountains. We often make a joke about calling for help until you descend to 2,990 meters high," Liang laughed. "Besides mountain activities and education, mountaineering safety is of the same significance. Authorities concerned should know the importance so that people can participate in mountain activities without worries."

Most major mountains in Taiwan have been included into national parks in which tourists, who chiefly see mountaineering as a form of recreation, like to join tour groups planned by travel agencies. However, most tour groups fail to follow park regulations and there are still some defying guides who cook food for the group at Paiyun Lodge. Thus there needs to be more appropriate regulations and assistance.

As Liang suggested, in addition to nature conservation, national parks should include travel group regulations in the practice of mountaineering education so that the influence on mountaineering groups and the public can be exerted.

Mountains contain great scenic diversity just as mountaineering involves profound knowledge. Climbers can experience his/her own ascent, learn from other climbers, or join to help plan and promote mountaineering. Self-preparation is often not enough while the experience exchange with other climber can help obtain the most valuable treasure from the mountains.

只將自己準備好還不夠,要能與他人互相交流,學習成長,才是在 近山收獲上最無價的寶藏 / 梁明本提供

Self-preparation is often not enough while the experience exchange with other climber can help obtain the most valuable treasure from the mountains./ Photo provided by Ming-ben Liang

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# **Profile of Secretary-general, Ming-ben Liang**

現任中華民國山岳協會秘書長,執行聖母峰登頂的幕後推手。專長領域是登山、溯溪、探勘、海外登山健行、高海拔攀登、大型活動規劃執行等。期望將無痕山林運動推廣至實際的登山活動中。

Currently as the secretary-general of Republic of China Alpine Association, Liang is the mastermind behind the ascent to Mt. Everest. He specializes in mountaineering, river tracing, expedition, overseas mountain hiking, high-altitude mountain climbing, and large-scale activities planning. He wishes to promote the concept of "Leave No Trace" in all mountaineering activities.

