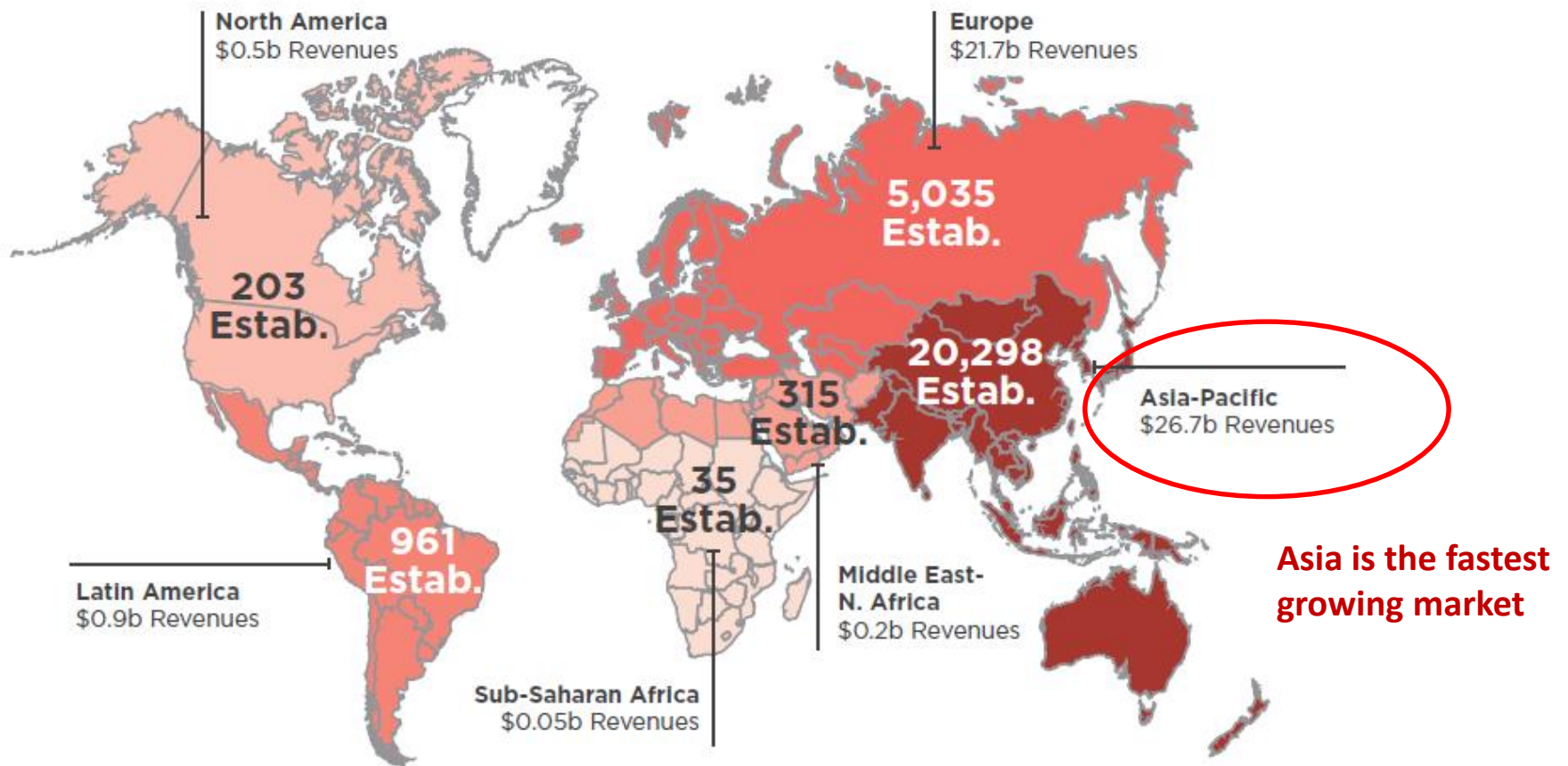




ASIA HOTSPRING

INDUSTRY OVERVIEW

HOTSPRINGS ASIA LEADS BY SIZE



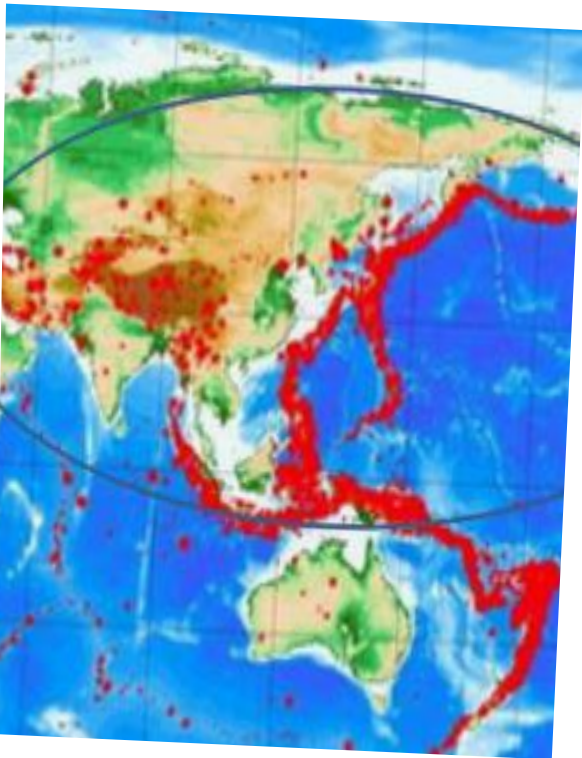
TOP HOTSPRING MARKETS

	Number of Establishments	Revenues (US\$ billions)	Rank In 2013
China	2,160	\$14,078.3	1
Japan	17,653	\$11,687.0	2
Germany	1,265	\$7,520.0	3
Russia	776	\$3,688.5	4
Italy	756	\$1,742.7	5
Austria	124	\$928.8	6
Turkey	196	\$862.4	7
Hungary	531	\$691.3	8
Czech Republic	84	\$686.4	9
Spain	165	\$672.0	10
France	175	\$665.5	11
Poland	72	\$576.0	12
Switzerland	61	\$485.8	13
Slovenia	63	\$439.2	14
United States	185	\$395.0	15
Portugal	84	\$376.2	16
Slovakia	81	\$364.8	17
Taiwan	119	\$307.5	18
Romania	70	\$295.0	19
Iceland	135	\$293.0	20

China and Japan represent **51%** of global industry revenues.



HOTSPRINGS IN ASIA



- **China**
- India
- Indonesia
- **Japan**
- Korea
- Malaysia
- Myanmar
- Philippines
- Singapore
- **Taiwan**
- Thailand
- Vietnam

Very little data
available on most
countries: data is
incomplete,
inconsistent
and/or unreliable



JAPAN ONSEN AS PART OF CULTURE



hot spring ceremony in Kyushu

Nippon Onsen Research Institute latest statistics:

- 3,088 hot spring districts
- 27,367 springs and
- 21,161 facilities.

No. guests staying at hot spring lodges per year is around **128 million**.

日本温泉総合研究所
Nippon Onsen Research Institute



DSM
WELLNESS MANAGEMENT

Nippon Onsen Research Institute: “Data On Japan Hot Spring ”

JAPAN HOT SPRING DEVELOPMENT



Prehistoric Era

Rejuvenation
after hard
physical work



Nara Era

Buddhist
Activities



Kamakura Era

From buddhist
to recreation



Edo Period

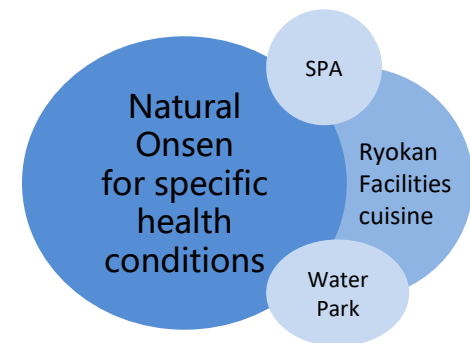
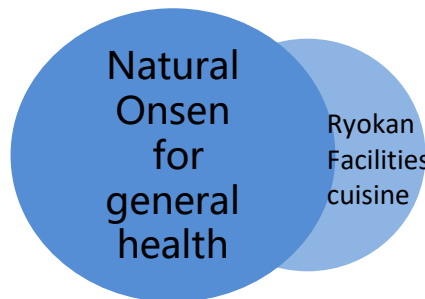
Flourishing for
medical effects



Heisei Period

Industry suffered
due to economy.
Regulation

Products:



DSM
WELLNESS MANAGEMENT

Natural hotspring has always been core to Japanese hot spring industry

JAPAN THREE MAIN TYPES OF ONSEN



Day Onsen: mainly in big cities with spa service, like Day spa operation.
Ave. spend ~15-20 USD



Local Public Onsen:
often settled in onsen district serving the local residents, small and cheap.
Typically 3-5 USD.
Some are free.



Onsen Ryokan:
Traditional lodges, often far away from cities, providing food and accommodation. Family and lovers are main guest types.
Ave. spend per person per day is ~200 USD.



JAPANESE ONSEN 'PROFESSIONAL'

Every hot spring has its own “**Onsen ID Card**”, including information such as:

- ✓ Origin of the hot spring water
- ✓ Mineral composition
- ✓ Curative effects, e.g., **Oosado onsen** - chronic eye diseases
- ✓ pH, indicating different therapeutic effects
 - ✓ E.g., **Kusatsu-onsen** pH 2.6: very helpful for skin disease, chronic gynaecopathia and hypertension;
 - ✓ **Hirugami-onsen** pH 9.5: popular among girls for skin care.
- ✓ Temperature of the head spring: higher temperature can dissolve more active ions (?)
- ✓ Osmotic pressure: indicating mineral absorption.
- ✓ Contraindication and cautions

温 泉 分 析 書

1. 依頼者：群馬県吾妻郡草津町462-58
草津温泉研究会 右 施 正 美

2. 温泉地名・源泉名：草津温泉(源泉名：湯畑)
及び湧出地：群馬県吾妻郡草津町大字草津字西町403-1・2

3. ゆり出地点における調査及び試験成績
(1)調査及び試験者：(社)群馬県薬剤師会(道後衛生試験センター) 加藤克之 瀬戸口典紀
(2)調査及び試験年月日：平成15年4月15日
(3)泉 温：53.0℃(調査時の気温 5.4℃)
(4)ゆり出量：測定せず(目数測定)
(5)加圧試験：無色透明、硫化水素臭あり
(6)pH値：2.0
(7)電気伝導率：440 $\mu\text{S}/\text{m}$ (交流2電極方式、極板：チタン・白金黒)

4. 試験室における試験成績
(1)試験者：(社)群馬県薬剤師会(道後衛生試験センター) 加藤克之 瀬戸口典紀
(2)分析終了年月日：平成15年4月30日
(3)加圧試験：無色透明、硫化水素臭あり
(4)濃 度：0.9998 (20.0℃)
(5)pH値：2.02
(6)蒸気残留物：1.50 g/kg(110℃)

5. 試験1kg中の成分、分量及び組成

(1)陽イオン				(2)陰イオン			
成 分	計量法 (mg)	計量法 (mval)	計量法 (mval %)	成 分	計量法 (mg)	計量法 (mval)	計量法 (mval %)
ナトリウム(Na ⁺)	61.2	2.66	10.12	カルシウム(Ca ²⁺)	11.4	0.60	2.30
カリウム(K ⁺)	26.8	0.69	2.61	塩素(Cl ⁻)	381	10.7	41.22
マグネシウム(Mg ²⁺)	34.3	2.82	10.73	硫酸根(SO ₄ ²⁻)	606	12.6	48.41
鉄(II)イオン(Fe ²⁺)	73.8	3.68	14.00	トリホスホン酸(H ₂ PO ₄ ⁻)	204	2.10	8.07
銅(II)イオン(Cu ²⁺)	19.0	0.68	2.59				
マンガン(Mn ²⁺)	1.23	0.04	0.17				
アルミニウム(Al ³⁺)	52.3	8.80	33.05				
水素イオン(H ⁺)	10.0	9.92	37.73				
陽イオン計	279	26.3	100.00				

(3)遊離成分

成 分	計量法 (mg)	計量法 (mmol)
メタケイ酸(H ₂ SiO ₃)	230	2.94
メタほう酸(H ₂ BO ₃)	8.8	0.20
硫 酸(H ₂ SO ₄)	3.2	0.05
非 解 離 成 分 計	244	3.19

イオン交換成分

成 分	計量法 (mg)	計量法 (mmol)
遊離二酸化炭素(CO ₂)		
(遊離炭酸)	0.0	0.00
遊離硫化水素(H ₂ S)	13.0	0.38
溶 存 ガ ス 成 分 計	13.0	0.38

溶存物質(ガス状のものを除く)
(1)+(2)+(3)ア： 1.72 g/kg
成 分 総 計： (1)+(2)+(3)ア、イ： 1.74 g/kg

(4)その他の微量成分
鉛イオン： 0.047 $\mu\text{g}/\text{kg}$
検出せず。(0.002mg/kg未満)
銅イオン： 検出せず。(0.005mg/kg未満)
鉄水素： 検出せず。(0.0005mg/kg未満)

6. 泉 質： 酸性・含鉄・アルミニウム・硫酸塩・塩化物温泉(硫化水素型)
(酸性低張性高温泉)

7. 禁忌症、適応症等：「温泉分析書別表」中5に記載する。

温泉分析登録番号：群馬薬第2号
登録分析機関：(社)群馬県薬剤師会

平成15年5月2日
群馬県前橋市西片貝町5丁目1番地
(社)群馬県薬剤師会
(道後衛生試験センター) 会長 黒 野 隆
会 長 黒 野 隆

この写しは原本と相違ないことを証明する。
平成16年 8月27日
草津町長 中 澤 敬

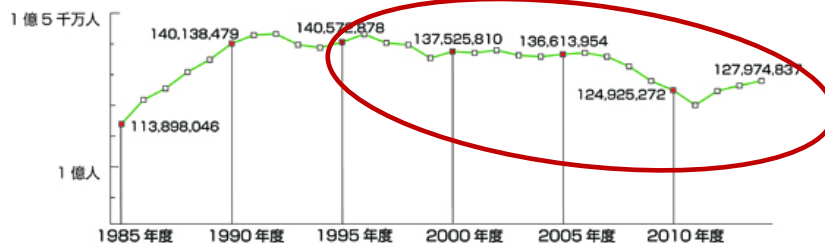


HOTSPRING ONLY MARKET IS LIMITED

JAPAN MODEL



No. Hotspring Facilities



No. Hotspring Hotel Guests

Nippon Onsen Research Institute statistics:

- No. hot spring facilities & hotels declining
- No. of hot spring hotel guests declining

GWJ Thermal/Mineral Springs Economy Study reveals: Hotspring businesses offering spa services can earn almost twice as much as springs without spa services.

Plus: not every country in Asia has Japan's the extraordinary hot spring resources.

So what is the rest of the market doing?...



DSM
WELLNESS MANAGEMENT

Nippon Onsen Research Institute: "Data On Japan Hot Spring"

CHINA HOTSPRING OVERVIEW



Map of Hot Springs in China

More than **4,000 hot springs** around China

Hot spring tourism revenue is over **12 billion USD** p.a..

No. of hot spring tourists increasing **20% p.a.**

Source: Chinese consulting firm

JAPAN AND CHINA DIFFERENT MODELS

JAPAN

Predominantly natural hot springs;
making full use of the water itself.
'Pure' and professional.



Top two hot spring markets in Asia



CHINA

China is proliferating many types of
hot springs with accommodation,
spa services, food and entertain-
ment. **Multi-function and diverse.**



CHINA HOTSPRING DEVELOPMENT



Feudal China

For a long period of time, hot spring is **royalty-related**

Project: Huaqing Hot Spring



Before Opening-up policy

Coal miners or government officials use as **sanatorium**

Project: Liao Ning An Shan Tang Gang Zi Hot Spring



1980s to late 20th century

Embrace masses **recreation** oriented

Project: Zhuhai Yu Hot Spring Resort



early 21st century

More elaborate and private **soft wellness** oriented with Spa

Project: Brilliant Chongqing and Banyan tree Li Jiang



Recently

Flourishing with **entertainment** and **multi-function** hot springs

Project: Mission Hills Haikou; Xi'an Lehua Water Park



DSM
WELLNESS MANAGEMENT

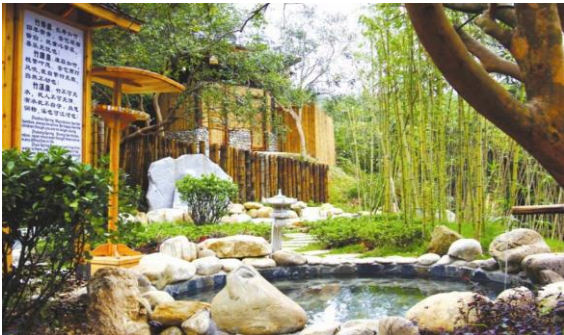
ASIA TEN TYPES OF HOTSPRING



1. Natural Hotspring
2. Leisure Hotspring + TCM
3. Spa Hotspring
4. Rehabilitation Hotspring
5. Sauna Hotspring
6. Entertainment Hotspring
7. Conference & Exhibition Hotspring
8. Agriculture Hotspring
9. Real Estate Hotspring
10. Spiritual Hotspring

TYPE ONE NATURAL HOT SPRING

Self-flowing hot spring within its original landscape, including: seaside, forest, mountains, canyons, wet lands, bamboo forest, volcanoes.
Emphasis on the relaxing and restorative benefits of nature.



TYPE TWO LEISURE HOT SPRING + TCM

Relaxation and leisure tourism for the mass market. TCM-related services added as a selling points: herb bath, wellness tea, 'seasonal wellness buffet', etc. Seldom any TCM expertise onsite.



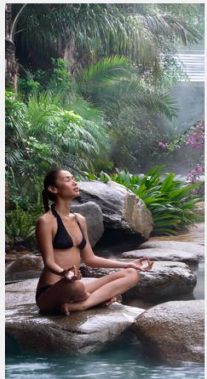
TYPE TWO LEISURE HOT SPRING + TCM

Wellness hot spring with rose essential oil?

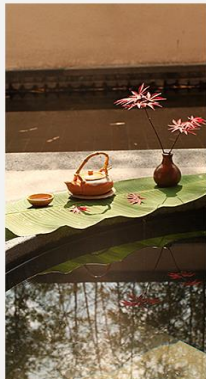


TYPE THREE SPA HOT SPRING

Spa resorts for high-end market. Tranquil ambience, 5-star service, and professional Spa service. Sometimes TCM added. e.g. Brilliant Resorts, Banyan Tree, Sheenjoy



昆明柏联温泉



和顺柏联温泉



景迈柏联温泉



重庆柏联温泉



TYPE THREE SPA HOT SPRING



The Banjaran, Malaysia

TYPE FOUR REHABILITATION HOT SPRING

More affordable, Asian-style sanatorium. Now targeted mainly to seniors. Basic body check, medical (usually traditional), recovery, physiotherapy and fitness.



TYPE FIVE SAUNA HOT SPRING

Urban model for business and family use. Traditional sauna centers adding more elaborate hot spring features. Also foot massage relaxation (with TVs).



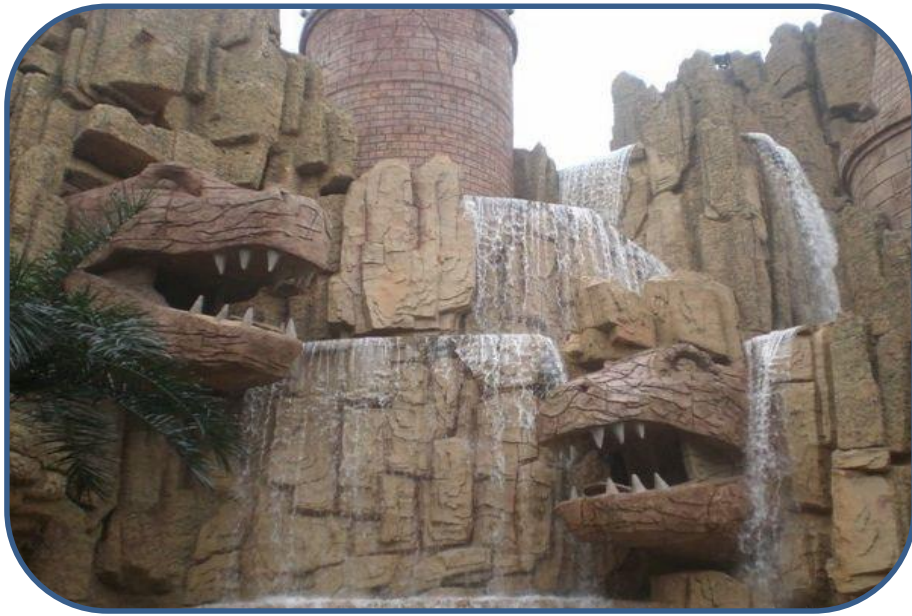
TYPE SIX ENTERTAINMENT HOT SPRING

Hot Spring combine with entertainment facilities - to fill full the off peak season to increase resort revenue and business. Targeting families and groups.



TYPE SIX ENTERTAINMENT HOT SPRING

Now developing as full-on Theme Parks...



TYPE SEVEN CONFERENCE HOT SPRING

Hotspring resorts often have large conference & corporate entertainment facilities (eg: KTV), to balance the peak and low seasons in hot spring operation.



TYPE EIGHT AGRICULTURE HOT SPRING

Destinations that combine hot spring resources with eco-tourism – farms for fresh produce. (Land and water is often mineral-rich, resulting in better tasting produce).



TYPE NINE REAL ESTATE HOT SPRING

Wellness real estate is a popular trend in a struggling real estate market. Hot springs greatly add credibility and value to these developments.



TYPE TEN SPIRITUAL

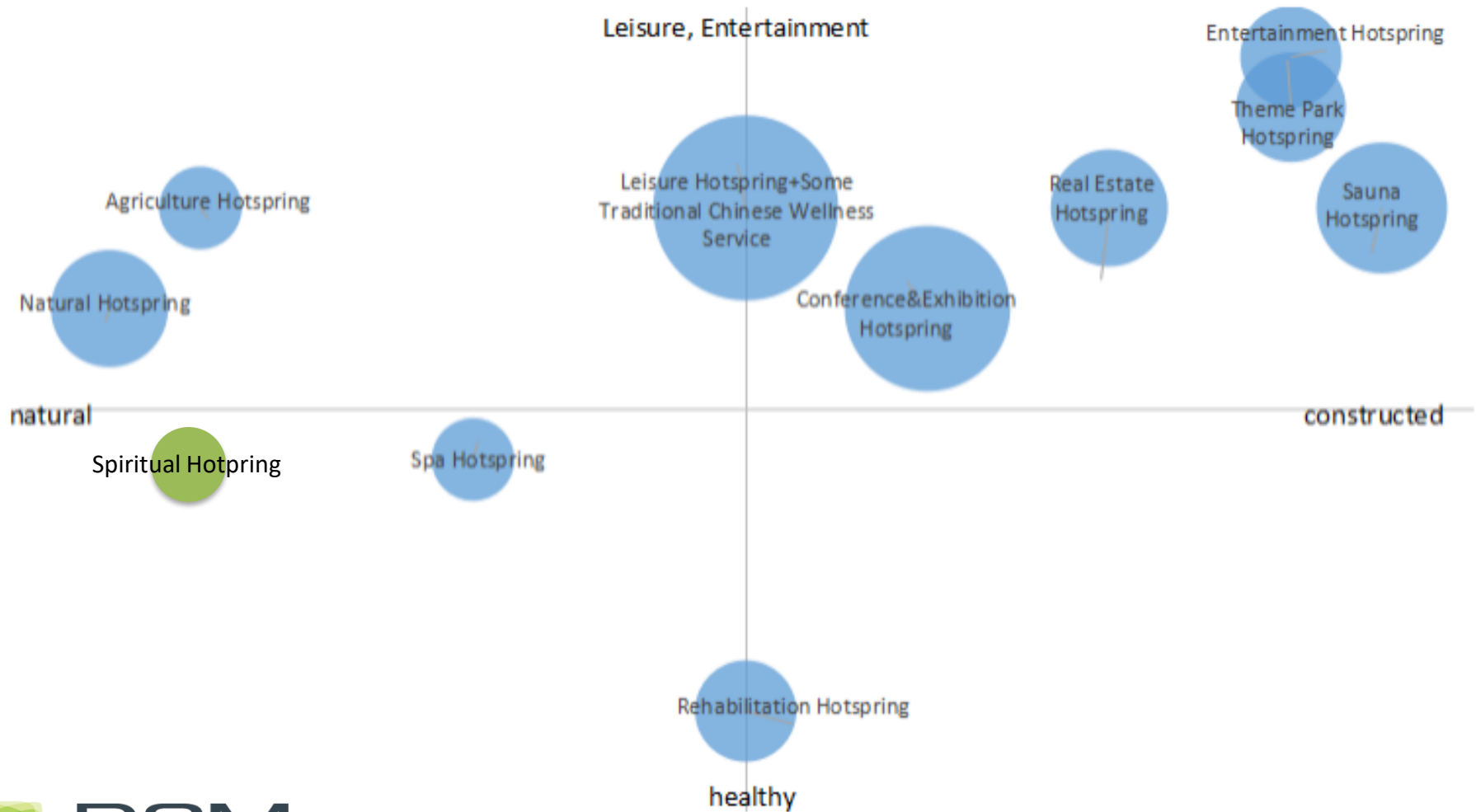


Geological Survey of India identified 350 hot springs in India.

Many hot springs are valued for their religious significance.

During religious occasions devotees come from far and wide to touch the waters as part of their rituals.

ASIA TEN TYPES OF HOTSPRING



ASIA TEN TYPES OF HOTSPRING



ASIA TEN TYPES OF HOTSPRING





DSM
DESTINATION SPA MANAGEMENT