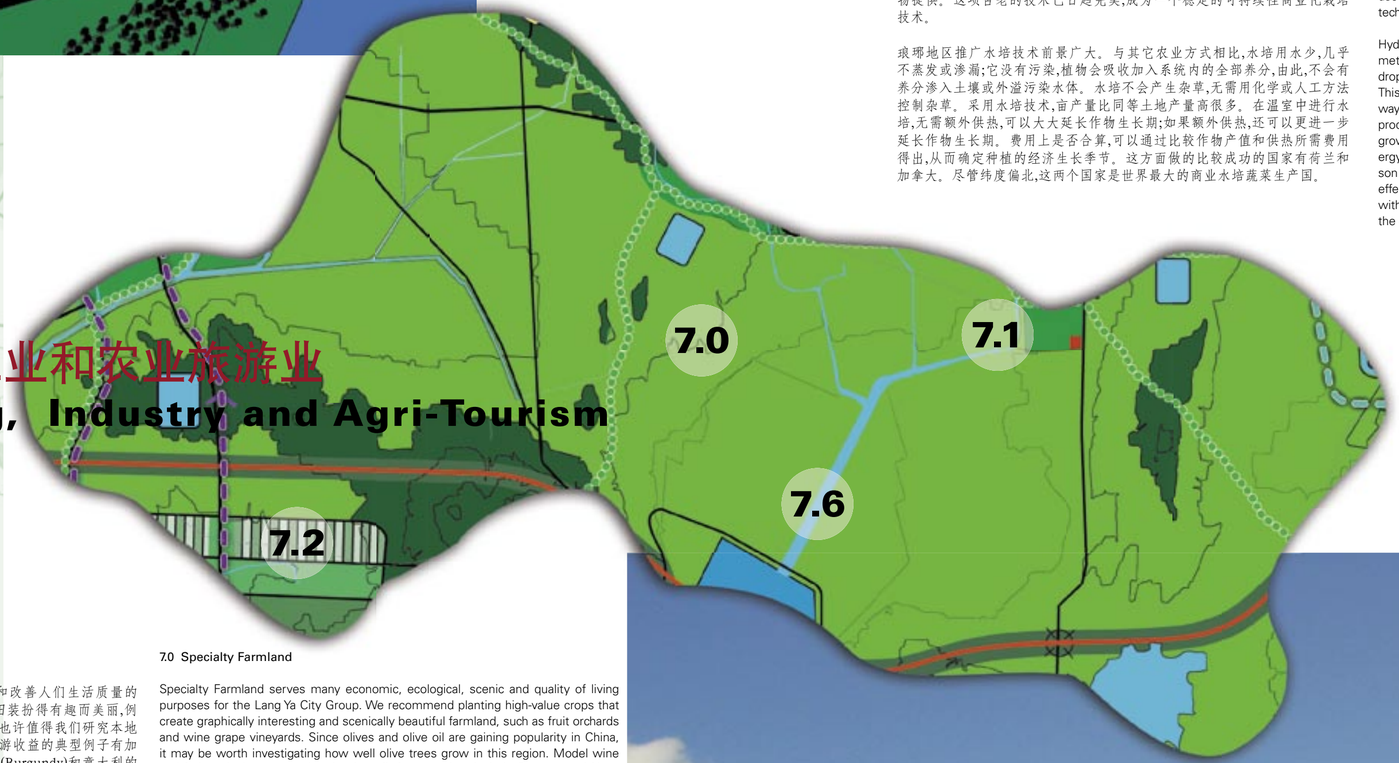
农业、工业和旅游业最理想的结合,应该互助互利、极大地促进各行业的共同发展。工业区周边及附近绿化缓冲带、生态区的环境效应、高产农业园区等,这都是琅琊组团振兴经济发展和提高生活质量提高的重要因素。这些农业和工业的特别因素也成了受欢迎的旅游景点。工业发展及产品生产靠的是市场开拓,而旅游业的增长靠的是丰富多彩的旅游景点和各种形式的旅游活动。旅游活动越多,旅游的人就越多。富饶的土地越多,农业经济的发展则会越强劲。工业生产越综合,越注意生态保护和越考虑人的因素,人们会越认真的工作、效益就越高。所有这些都是从相互协同效应中受益。

The thoughtful integration of farming, industry and tourism deserves to be mutually beneficial and profoundly symbiotic for all. Green-space buffers near and around industry; eco zones that are both environmentally life supporting; high productivity agriculture; taken together these goals intensify the economic and life quality for the Lang Ya City Group. These agricultural and industrial elements also become compelling tourist attractions; the industries and products benefit from greater marketing exposure, while the local tourism industry benefits from a greater variety of choices. The greater the number of tourist activities, the more frequent the visits become. The more productive land is available for high-yield agriculture, the stronger and more economically successful agribusiness can be. The more integrated, eco-responsible, and lifestyle oriented industry is, the more seriously productive will the work force. All these various forces benefit from mutual synergy.



焦点 7: 农业、工业和农业旅游业
Focus 7: Farming, Industry and Agri-Tourism

7.0 专化农田

专化农田在琅琊组团中有着许多经济、生态、景观和改善人们生活质量的作用。我们推荐种植高附加值的作物,它们可以把农田装扮得有趣而美丽,例如,果园,葡萄园等。随着橄榄和橄榄油在中国的普及,也许值得我们研究本地区种植橄榄的可行性。通过葡萄和果树种植而带来旅游收益的典型例子有加洲的索诺玛(Sonoma)和纳帕(Napa)县、法国的泊甘蒂(Burgundy)和意大利的图斯堪尼(Tuscany)。这些地区的农业生产创造了可观的经济利益,同时也吸引大量的游人,给旅游业带来了很高的收益。在意大利,人们称之为农业旅游业(Agriturismo)。游人被农田景色而吸引,也被周围提供其它旅游服务的城市所吸引。许多人喜欢在一个农家小院里住上一宿,吃上一吨农家宴;另有一些人喜欢四处漫步,然后返回当地度假中心。骑自行车旅游也非常普遍。

组团内,农田的北部成为城区扩展边界,它成为北部城区和东南部旅游度假区之间的绿色缓冲带。这大片生态绿色,风景秀丽的农业景观就位于琅琊城市组团的心脏地带,它提高了整个组团的价值,是一个强大的经济驱动,它为市民创造了更高的生活质量,并吸引了四面八方的游客来此休闲旅游。它于是成了城市组团的一个重要组成部分和成功的标志。

我们可以通过水泵从沐官岛水库抽水至海拔较高的农田水库(可能可以利用风力驱动的水泵),然后通过重力自流,灌溉整个地区的农田。

7.0 Specialty Farmland

Specialty Farmland serves many economic, ecological, scenic and quality of living purposes for the Lang Ya City Group. We recommend planting high-value crops that create graphically interesting and scenically beautiful farmland, such as fruit orchards and wine grape vineyards. Since olives and olive oil are gaining popularity in China, it may be worth investigating how well olive trees grow in this region. Model wine and fruit agriculture examples that benefit from tourism include Sonoma and Napa Counties in California, Burgundy, in France and Tuscany in Italy. These areas generate significant economic benefit from agricultural production, but they also attract the high economic value of tourism. Called “agritourismo” in Italy, tourists are attracted to both the agricultural lands themselves, and to the surrounding urban areas that provide additional tourism services. It is very popular for tourists to stay at farmhouse Bed and Breakfasts during their visits, while others tour the areas and then return to local resorts. Bicycle tourism is also popular.

The farmlands create a green buffer between the urban growth boundaries in the north and the tourism and resort communities in the south and east. This large eco-green and scenic area in the heart of Lang Ya City Group enhances and value of the total area, functions as a strong economic driver, creates a higher quality of life for residents, and attracts a broad cross-section of tourists. It then becomes an important element of in the successful branding of the City Group!

Irrigation of farmland is achieved by pumping water (possibly through wind driven pumps) from the Muguando Reservoir into agricultural reservoirs at higher elevations. Simple irrigation is then delivered though gravity feed to the desired areas.

7.1 可持续农业研究所

这个研究所主要负责研究适合当地的高产值农业栽培方式和农作物产品。其主要任务包括研究节约用水的栽培方法,及改善生态和环境的途径。作为一个基础研究和实验机构,研究所拥有自己的实验田和温室。它将深入研究温室里的水培方法,以及生产屋顶栽培的材料和推广应用。研究所距市区不远,可俯视整个农业区。它将培训农民,推广有机及生态可持续性农业。

7.1 Sustainable Farming Institute

This institute will be charged with defining the intersection between high value agricultural plantings and farm products that will thrive in the area. Important tasks will include the study of methods to minimize water use and improve the ecology. As a primary research and testing facility, the Institute uses its campus for study gardens and greenhouses. It will research practical applications for hydroponics in greenhouse and manufacturing building rooftop applications. This facility is located near the city and overlooks the general farming region. It will train farmers in the implementation of organic and ecologically sustainable agriculture.

7.2 水培农业

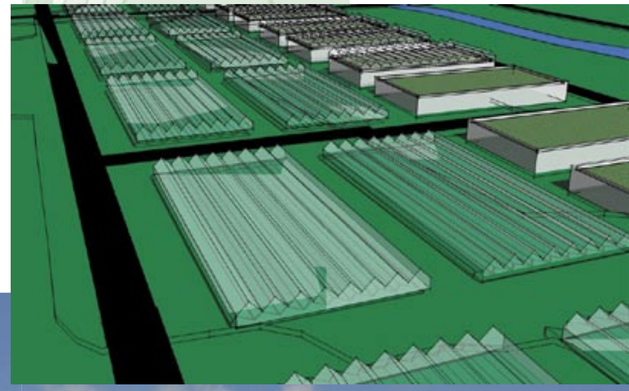
水培农业无需土壤,种植上等蔬菜、水果和草本。作物所需养分由水溶性矿物提供。这项古老的技术已日趋完美,成为一个稳定的可持续性商业化栽培技术。

琅琊地区推广水培技术前景广大。与其它农业方式相比,水培用水少,几乎不蒸发或渗漏;它没有污染,植物会吸收加入系统内的全部养分,由此,不会有养分渗入土壤或外溢污染水体。水培不会产生杂草,无需用化学或人工方法控制杂草。采用水培技术,亩产量比同等土地产量高很多。在温室中进行水培,无需额外供热,可以大大延长作物生长期;如果额外供热,还可以更进一步延长作物生长期。费用上是否合算,可以通过比较作物产值和供热所需费用得出,从而确定种植的经济生长季节。这方面做的比较成功的国家有荷兰和加拿大。尽管纬度偏北,这两个国家是世界最大的商业水培蔬菜生产国。

7.2 Hydroponic Farming

Hydroponic farming grows premium grade fruits, vegetable and herbs without the use of soil – plant nutrition is provided by water-soluble mineral elements. This ancient technique has been perfected into a viable, sustainable commercial process.

Hydroponics holds great promise in the Lang Ya area. Compared to other farming methods, much less water is used, because there is no evaporation or drainage. Hydroponics is pollution-free, because the plants use all nutrients put into the system. This means there is no leaching into the soil, or runoff that can contaminate waterways. There are no weeds, so chemical or manual weed control is unnecessary. The production of premium quality produce is much higher per acre of land used. When grown in greenhouses, the growing season is extended without additional heat energy, and heating can extend the season much more. The cost-effective growing season can be calculated by comparing crop value with heating cost. Demonstrating the effectiveness of extending the growing season, the Netherlands and Canada, even with northern climates, are the top commercial hydroponic vegetable producers in the world.



我们建议把温室放在工业区是出于多方面的考虑。其中包括对工业生产余热的利用。我们建议用聚碳酸塑料薄膜(Polycarbonate)搭建温室,这种材料又轻又便宜。可以开设当地的一家工厂专门生产这种聚碳酸塑料薄膜(Polycarbonate);另一家工厂可制作温室,供本地使用或出口。

这儿还有一个好例子:日本已成功地利用屋顶进行水培。这种屋顶栽培方法是除温室外增加农业产量的又一选择。水培可建在大部分工厂的屋顶上,可以附加温室或者不加。屋顶栽培增加了农业生产的空间,同时作物还可以作为建筑物内外的热屏蔽,减少建筑物内热量损失或吸收外部的热量。

比较有经济效益的作物有西红柿、红薯、绿色蔬菜和新鲜草本等。当地农产品可以运往琅琊组团市区及旅游区销售,既增强了这些地方的生态可持续性,又减少了从其他地区进口食物,从而降低了长距离运输而造成的对生态和环境的破坏。

We recommend location of greenhouses in the industrial area for a number of reasons, including the advantage of using co-generated heat from manufacturing processes. We recommend that greenhouses be manufactured of polycarbonate, an inexpensive, lightweight material. One of the local industries could extrude polycarbonate, and another could manufacture greenhouses for local use and for export.

Another good example: For many years, Japan has successfully used rooftops for hydroponics. This roof top approach is another option to expand farm production outside the greenhouses. Hydroponic gardens can be placed on the rooftops, with or without greenhouses, of most manufacturing buildings. In addition to providing more space for agricultural production, the plants act as a thermal shield between the outdoor elements and the interior of the buildings, thus reducing heat loss or gain.

Examples of cost-effective produce include tomatoes, sweet potatoes, leafy green vegetables, and fresh herbs. Local produce delivered to urban and tourist areas in Lang Ya City Group create an added benefit for ecological sustainability: it decreases the import of food from other areas, and therefore decreases the environmental degradation created by shipping produce long distances.

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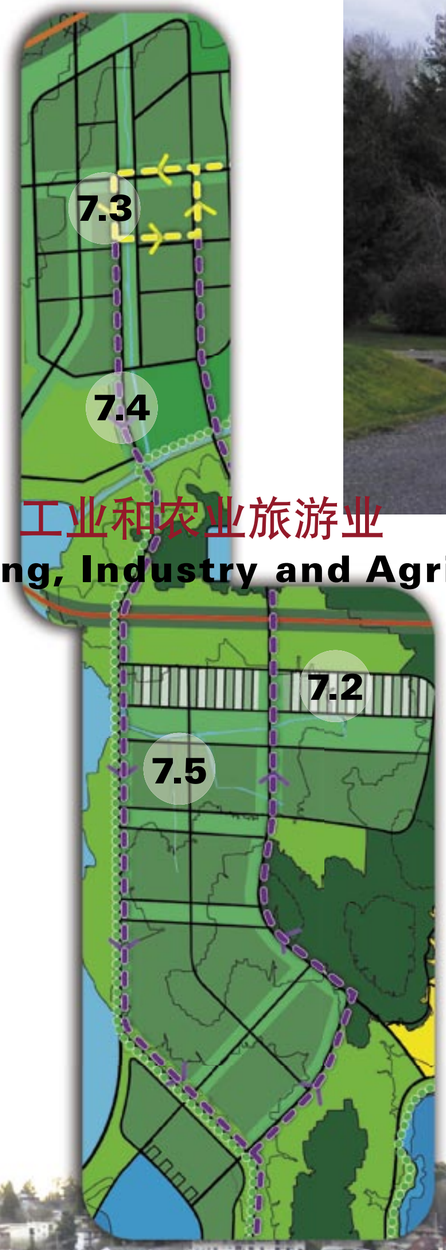

焦点 7: 农业、工业和农业旅游业
Focus 7: Farming, Industry and Agri-Tourism

7.3 重工业和中型工业区

重工业和中型工业区设置于同三高速公路及新建铁路线附近,以方便货物运输。应优先在工业区内敷设一条铁路支线(图上没有标明),可以满足那些需大批量运输货物的工厂的需要。工业区的绿地空间把地表水收集到中央绿地排水系统中,进行生物过滤处理。这些生物绿地,可以改善空气质量和水质,又是当地居民休闲娱乐的好去处。大部分职工将住在附近的泊里镇,他们可以步行,骑自行车或搭乘轻轨上下班。

琅琊组团的规划综合考虑生活质量和这个制造产业基地之间的结合,创造了一种高水平的可持续发展的模式。位于西雅图市140公里处的泊凌翰Bellingham镇在这方面做得非常成功。这个镇的人口是170,000,正如琅琊组团一样,它是一个山海之间的生活质量很高的美丽的城镇。镇的北部沿海有世界产量最高的英国石油炼制厂。英国石油公司经多年研究得出一个结论:与其它采用相同技术的炼油厂相比较,这个厂的典型特征是职工的良好的团队精神和工作态度。

7.3 Heavy & Medium Industry zone

This primary industrial zone is strategically located near Tongsan Expressway and the new railroad line, for easy access to regional supply routes. A right of way for a potential railroad spur within the industrial zones (not shown on the map), would serve manufacturers requiring large bulk deliveries and shipments. The industrial green spaces collect surface water to the central green belt drainage, to serve as bio filtration. These bio-green zones, in addition to improving the air and water quality, provide recreational and park spaces for local workers. Most employees would reside in nearby Boli Town, commuting to work by walking, bicycle or the use of light rail.

The integration of the quality of living in the Lang Ya City Group with this manufacturing base creates a high level of sustainability. A good example is the town of Bellingham (population 170,000), 140 km north of Seattle. Like Lang Ya City Group, it is a beautiful area between in the mountains and sea, considered to have a high quality of living. Near the coast north of town lies a British Petroleum oil refinery that is considered the most productive in the world. After much research, British Petroleum concluded that the teamwork and attitude of employees is the distinguishing feature from other plants that use the same technology.

7.4 污水处理设施

工业区的南端留有一个水质管理的重要地块。在这儿,工业废水、生活污水、工业及非工业地表水采用不同的系统进行处理。这个地方是整个琅琊组团的污水处理中心。在组团发展及转型期间,可采用喷淋灌溉,逐步达到三级污水处理。工业区的地表水将通过绿地排放;再通过生物滤池,最后汇入沉淀池完成水的处理。把几个水质控制机构都设在一个区内,以便利对水质的监控。这些水处理区也将是一个非常有趣的公园,它可以帮助人们更好地了解他们对水的使用及影响。这里也是设置水质及自然资源管理研究所的好地方

鉴于沐官岛水库将是本地区主要水源地,连续提高对水质的监控变得十分重要。沐官岛水库应提供主要的工业和农业用水,所有山区水库则用来提供居民用水。

7.4 Water Treatment Facility

At the south end of the industrial park, a substantial area is set aside for water quality management. Within this zone are different systems for industrial and domestic wastewater, industrial surface water and non-industrial surface water. This location will become the main wastewater treatment center for all of the Lang Ya City Group; during the growth and transition period, spray irrigation could be used, giving way to full tertiary water processing. The industrial zones would process their surface water runoff along the green area drainage and complete the process in bio filters and sediment ponds at the confluence this treatment park. Good monitoring practices can be maintained by bringing together several water quality facilities into one zone. Such treatment zones make for extremely interesting parks, helping citizens to better understand their use and effects on water supply. This is also an ideal location for the Water Quality and Natural Resource Management Institute.

Since the Muguando Reservoir will become a significant source of regional water supply, the constant upgrading and evaluation of the water quality will be essential. The Muguando Reservoir should be dedicated to industrial and agricultural use; all the mountain reservoirs are directed to domestic use.

7.5 轻工业和中型工业区

由于这个地区临近海滨和度假区,我们建议把它规划为轻工业和中型工业区及南头造船区。工业绿地可作为地表水的生物过滤,并提供绿色空间。一条轻轨沿水库延伸,直至南头村。轻轨方便了职工上下班和旅游交通。这个地方也将是主要屋顶水培区。造船业及其它工业为旅游开发增添了许多可能。例如,波音公司制造厂便是西雅图最受欢迎的旅游热点之一。其它世界流行的旅游观光景点包括酿酒、奶酪制作、摩托车制造、玻璃冲泡甚至软心豆粒糖制作等。当然,我们不是建议在此地搞上述工业,我们只是借此证明发展工业旅游的可能性。

所有制造工业区应注意考虑集装箱运输,应综合考虑铁路、公路和水路的集装箱运输。

7.5 Light & Medium Industry zone

Because of its proximity to the coast and tourist resorts, we recommend this area to support light and medium industry, as well as shipbuilding at South Point Port. Industrial green areas will provide bio filtration for surface water as well as create open green space. One path of the light rail line runs along the reservoir and into South Point Village, supporting both manufacturing employees and visitors. This will also be the primary focus area for rooftop hydroponic gardens. The ship building and other selected industries provide potential for tourism. For example, the Boeing manufacturing plant is among the most popular tourist destinations in the greater Seattle area. Other popular tours worldwide include breweries, cheese production, motorcycle manufacturing, glass blowing and even jellybean manufacturing. While we're not recommending these specific industries for this area, it illustrates the broad potential of manufacturing tourism.

Both manufacturing areas should emphasize container shipping for flexible transport via rail, road, and waterway.

7.6 水产养殖

该地区现有的水产养殖业会进一步得到加强和发展,水产资源的管理会进一步强化。随着海洋研究所的技术开发和运用,高产出、高附加值、可持续性的水产养殖方法将得于更多的推广应用。它将替代其它地方的养殖,使那些地方的土地可以作为其他用途。与此同时,随着技术的进步,水质的提高和水质管理的改善,反过来将进一步促进水产养殖业的发展。

7.6 Aquaculture

The existing aquaculture in this area will be expanded, and resource management will be intensified. With techniques developed by the Marine Institute, high-output, high-value, sustainable aquaculture will yield product value that replaces existing aquaculture production in other areas that have a changed land use. Also, as better methods develop, improved water quality and water quality management will further improve the aquaculture industry.

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