ORNAMENTAL HORTICULTURE

A growing industry?

AIPH

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AIPH

I | ABOUT

THE INTERNATIONAL ASSOCIATION OF HORTICULTURAL PRODUCERS (AIPH)

THE WORLD'S CHAMPION FOR THE POWER OF PLANTS

In 1948, amid strained relationships following the end of the Second World War, a group of representatives from the national grower associations of Western Europe came together in Zurich. They were united by an ambition to mend relations between European horticulturists, to rebuild burnt bridges. That vision inspired them to form the Association Internationale des Producteurs de l'Horticulture (AIPH), laying the foundations for an international community that exists to this day.

Since then, things have changed. The world seemed to start spinning faster. We moved from the countryside into the city. We flew to places we never knew existed. We went to the Moon. We started dreaming bigger but sleeping less. We invented the web, the smartphone and social networks. Slowly, sadly, we detached ourselves from the natural world. Our intimate bond with nature, so pivotal to our health and wellbeing, was weakened. We found ourselves living unnatural lives.

That is why AIPH lives and breathes today: to rekindle and maintain an enduring relationship with plants. Serving the diverse needs of growers in a globalised world. Pushing the boundaries of science and sharing cutting edge research. To make clear the value of plants in the urban setting, and to advance the essential role they play in sustaining our planet. To help all of us rediscover an affinity with our surroundings as old as humanity.

Our mission is clearer than ever: to reignite and uphold an appreciation of plants that we believe is a basic human instinct. As an organisation we strive for a world in which humanity, technology and nature exist in healthy and stable equilibrium. By achieving this we will build a balanced and prosperous future for all, sustaining the planet for this generation and the next.

We lead global thinking on the successful integration of nature into the built environment. Our Green City initiative promotes the essential role of

We support and promote the work of our members – the grower organisations around the world who together form our proud AIPH community. Through the expertise and energy they give to horticulture, they embody everything that we stand for.

Globally we act as the central source of industry information. Our statistical yearbook gives an unrivalled view of industry trends and developments, valued by our community and all who take interest in our rapidly moving sector. We bring members together both physically and digitally, and encourage the sharing of new ideas and techniques so that horticulture never stands still.

We advocate fair and robust plant breeders' rights, encouraging innovation and rewarding quality so that growers too can reap the benefits of their work. We promote the most sustainable, ethical and advanced practices in ornamental plant production, celebrating the most progressive growers and sharing pioneering new approaches. This strengthens the ornamental horticulture industry and is an affirmation of our determination to build a more balanced future from the ground up.

plants in creating vibrant urban areas in which people and businesses can thrive. Our environment, human wellbeing, social cohesion and economies are all improved by intelligently designed green space.

Finally, AIPH is responsible for the world's finest horticultural expositions. Upholding the very highest standards, we ensure that approved exhibitions benefit growers and visitors alike by inspiring greater appreciation of ornamental plants. Drawing on experience acquired over generations, we provide organisers with expert guidance to create world class spectacles that live long in the memory. Our great hope is for a world where the essential value of plants is recognised and reflected in every step forward for humanity. AIPH is, and will always be, the world's champion for the power of plants. Our relationship with nature was pivotal in our past. It is fundamental to our future.

WE AIM TO PUT FLOWER, PLANT AND LANDSCAPING SERVICES ON A GLOBAL AGENDA, WITH A VISION TO:

- Stimulate increased demand for ornamental trees, plants and flowers worldwide.
- Protect and promote the interests of the industry.
- Be an international hub for industry information and knowledge exchange.
- Lead best practice in ornamentals production

2 | BACKGROUND

The International Association of Horticultural Producers (AIPH) has commissioned this **International Vision Project (IVP)** to identify the future drivers and inhibitors which influence global ornamentals production.

The result is a vision that can help guide the industry to anticipate changing consumer behaviour, evolving demand and the implications for production of ornamentals.

To date, the vast majority of available quantitative research in this field has been conducted on the production side of ornamentals and is often based on reports of national statistical offices.

The demand side of ornamentals is generally unexplored in particular at a global level. Some entities have conducted studies on market specific or global trade flows, and national industry associations have researched the direct interests of their own production base and their main markets. Yet, no integrated global research to the world's established and emerging hot spots of ornamentals demand could be found so far.

This strategic outlook will answer questions like:

- Where will the growing consumption markets be;°
- Which (economic) characteristics can indicate the growth and development of consumption and production markets;
- What are major drivers (trade channels, consumer preferences etc.) for growth in the emerging consumption markets;
- How will trade flows run (where is the product grown and how does it get to the markets);
- Where will new innovation clusters be situated;
- How will the current leading countries (production and consumption) and their players develop;
- How can we generally increase per capita consumption of ornamentals?

A fundamental belief of this study is that the demand side of the global ornamentals market will determine the developments on the production side, so production follows demand. As such, demand for ornamentals is an interesting and relevant area for further research. The relevancy for AIPH is evident, as members are growers associations who can develop policy to anticipated shifts in demand.

3 | FOREWORD

From Bernard Oosterom, AIPH President

This report undertakes the first steps to define a vision for both the production and the demand side in the global ornamentals industry.

We are aware that a vision could be mistaken for a prediction. It is true that we have an interest in predicting future demand, yet we recognise that the main factors that drive or inhibit demand are nearly impossible to control or to predict. Think of variables like consumer behaviour, climatic and natural events, or political climate. The only certainty we have is that they will be different in 10 years from now, but we do not know what they will look like by that point in time.

Hence, this vision should be regarded as the first report of an ongoing research project that has the core objective to bring together a community of industry players, researchers and governments to function as a platform where the developments in the main production and demand markets for ornamentals are monitored and analysed.

The results will help the industry to develop adequate policy arrangements to help optimise future trade flows. Industry players can use the results to support their business and market intelligence to future explore markets and consumer segments.

AIPH positions this research as an organic project that must gradually grow and ripen over the course of time. We are always looking to extend the community of contributors to this research with individuals from all sorts of backgrounds and interests. Over the past months, I have attended interviews with experts and our expert committees who have helped build this report. The details and insights they were able to provide are all adding up to a bigger picture which is what we present here for the first time.

I trust you will enjoy reading this report and I gladly invite you to join the community and take part in this journey. Together we will help shape the ornamentals industry and champion the power of plants.

This research has established that change in demand and production is inevitable. In future decades a variety of macro factors will cause consumers to live different lives than the generations before them. They will develop different behaviour leading to different purchasing decisions which are likely to impact ornamentals. That change in demand raises the question – should the ornamentals industry reconsider the way it positions itself?

It is widely accepted, and taken as fact, that the world is urbanising at an increasing pace, and that we humans have an innate tendency to connect with nature (which is called biophilia). The irony is they result in a paradox that, in our opinion, holds the greatest opportunity for the growth of the ornamentals industry in the decades to come.

4 | READING GUIDE

This research is not considered to be final or one hundred percent comprehensive. Due to the scope of this extensive research, across the entire value chain, spanning the entire globe, covering more than a decade and across all world cultures, the researchers acknowledge that this research and the insights will keep evolving over time. The world is changing in every regard of our societies and with change comes uncertainty. We simply cannot forsee the future, but we can do our best to identify and track the drivers for change. That is what this project is about.

In the view of AIPH, this International Vision Project will be a continuous research project because consumers will keep changing and will consequently demand adaptation of our industry.

In that interplay, only one thing will not change and that is the change itself. Our industry will need to be resilient to absorb future shifts in demand. As such; this project is not only research; it is an ongoing process in which the industry's smartest minds work in co-creation to enrich and update the observations and findings. The research team lives and works around the globe and consists of experts with a variety of backgrounds and expertise. For the purpose of continuity, the research framework is not an ordinary one. The project is split in to modules. This report is the main framework of the world's macro socio-economics

and their implications for the ornamentals industry. It is a framework of factors at play in demand and production and presents a summary of the findings. In addition, a series of detailed workbooks is published.

These workbooks each cover a particular region, country or market segment with high relevancy to the industry. At this stage, each of the three world cores which currently hold the lions share of global demand are covered. Again, these workbooks are work in progress and will keep growing and evolving over time.

INVITATION

Just as the research project will evolve, so too will the research team. We invite industry players and scholars to help co-create this project and shape the future of ornamentals. To join the team contact: sg@aiph.org

Credit: Serjio74 / Shutterstock.com

5 | SUMMARY

DEMAND FOR ORNAMENTALS

In the world as we knew it, economic growth was primarily driven by growth of population. Today a variety of factors indicate that growth of consumption seems to be a more important driver of growth than growth in population. Although the world population continues to grow, the pace of growth is slowing down over the forecast period and the areas where growth occurs are clearly in and around urban areas rather than countries as a whole. Hence, urban consumers with growing income will generate the lion share of global consumption growth.

Research has identified the top-three target groups which have the scale and spending power to change global demand and impact the world economy. These three groups are expected to cover nearly half of the projected total €20 trillion global consumption growth till 2030.

1) The working middle class in China;
2) The working-age population of North America;
3) The growing population of retiring and elderly people of the western world.

Their combined weight in global consumption growth reflects both their large numbers and their high (or growing) per capita consumption.

In the case of the identified three large consumer groups, the question for ornamentals is how supply can connect with that demand. All identified target groups are concentrated in areas that are home to a significant domestic production base and large external trade flows of ornamentals. The question is can the growing and changing demand be satisfied by the current value chain or do we need different products, service propositions and other value chains? It is a shift in demand profiles and consumer buying behaviour that is likely to influence the propositions of the ornamentals industry in the future.

PER CAPITA SPENDING ON ORNAMENTALS

We have analysed the current and projected consumption in the target areas and uncovered some relevant insights:

1. The real per capita spending or household spending on ornamentals is far greater than previous research presented. Traditional models typically calculate with national averages, in this research our calculations are targeted more on factors like the addressable market in a specific city and specific consumer segments. We have found cities in all main markets where the consumption of ornamentals is more than double the values presented in previous research.

2. The global trade of ornamentals is likely to become an even more unlevel playing field due to a variety of factors from within and around

the industry such as government policies (trade tariffs, phytosanitary regulations), logistics and natural resources, but the most important factor will likely be consumer price elasticity. In other words; what is the maximum premium which consumers are willing to pay for imported ornamentals? In China, the average farmgate value of a basket of the top 5 flowers, over a 10-year period, is unlikely to be competed with by imports. Nonetheless, a market for specific and premium products is emerging and will continue to grow and that segment will increase in tune with the increase of the rising population in the upper-income cohorts defined as the upper middle class and affluent classes.

3. In an aging western world, households in the retired and old consumer segments are spending more money on gardening. People in this age group have higher disposable incomes, tend to stay in their homes longer and lead a more active life style than previous generations. These trends are synergistic to each other as either more time is spent on gardening as a hobby, or more time is spent on leisure activities and the gardening is out sourced to a service provider. Staying in their homes means, for the elderly, that adjustments and refurbishments need to be made, which in turn provides an impulse to landscape contractors.

• We think the common indicator of per capita spending on ornamentals does not clearly represent a society's appetite for ornamentals. For the largest metropolitan clusters in the scope of our research, we have further detailed consumer

spending by investigating the economics of ornamentals in each of those cities. For example, the services component which floral designers, landscapers and undertakers add to the ornamentals industry, is traditionally unaccounted for because per capita spending is typically calculated bottom-up by taking the sum of domestic farmgate value plus imports divided by the nation's population.
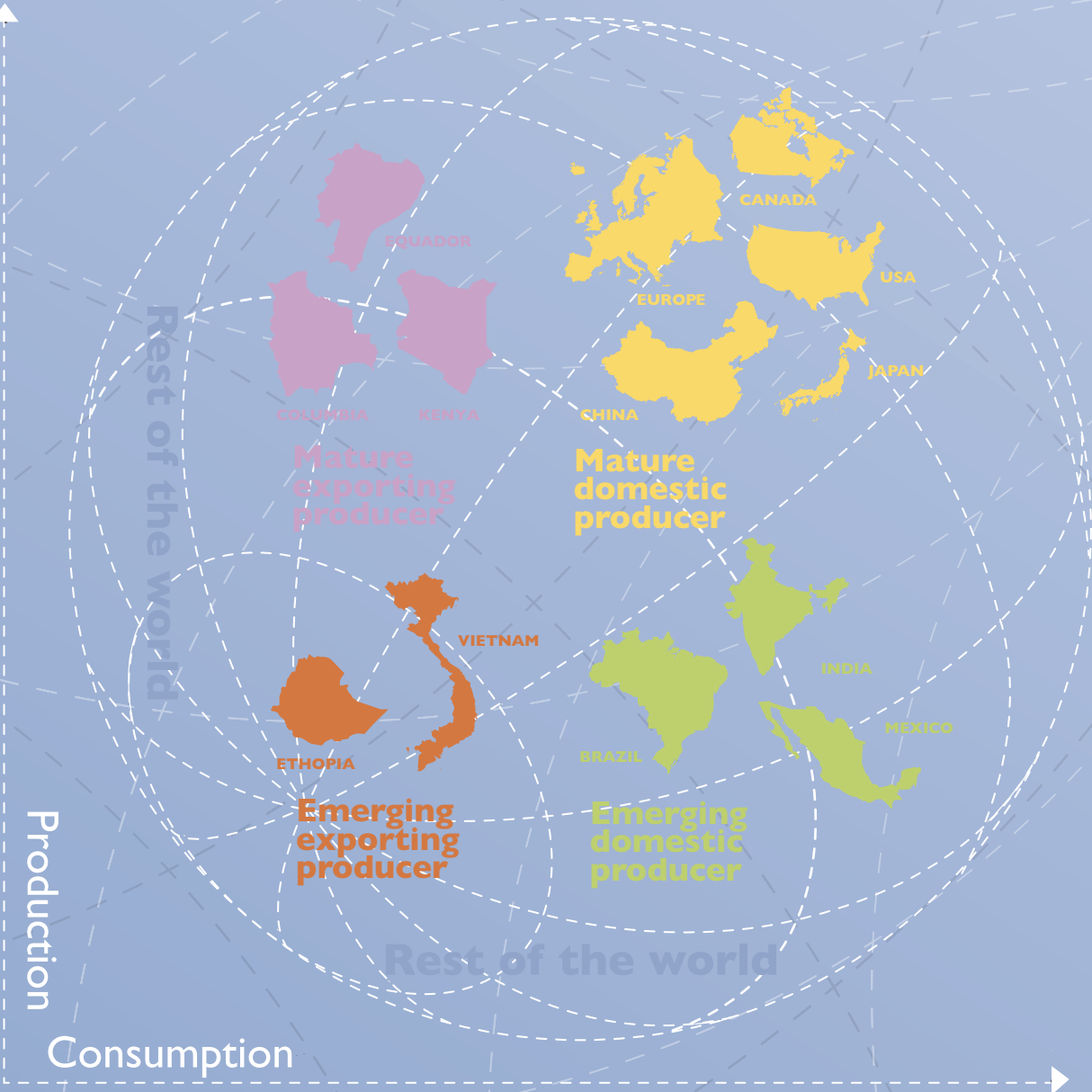
• We have calculated (with relative broad strokes) a figure per city which is generally spent per household or per capita on what we call major life events such as a wedding or a funeral.

• Public spending on parks and urban green space is a grey area in traditional calculations. Based on farmgate value; the plant material is accounted for, but the largest part of the public expenditures are in maintenance, rather than investments in new parks. This is a particularly relevant factor when comparing emerging markets with high urbanisation rates with the mature western markets.

• Reflecting on the traditional calculation, we also argue that the per capita spending on ornamentals, or the household spending on gardening or green outdoor spaces (such as patios or balconies) is directly related to the disposable incomes. As income grows and basic necessities have been satisfied, expenditure on new product and service categories starts to take off. This is underpinned with research from OECD and FAO which proves that consumption growth of *"western"* diets with increased meat and premium food stuffs will mature

quickly and a linear growing portion of the household budget is spent on non-necessities[3].

• The latter finding also supports the variation we see in product and service propositions in ornamentals between countries, cities and within countries between the urban and rural areas. One example; we found in one of the field researches in a rural garden centre 200 km south of Tokyo a 15cm pot of a white cyclamen for €3,5 and the same white cyclamen in an urban up-scale flower shop for €150.

Figure 1: Three World Cores of 2015 by GDP density in euro per square kilometre

PRODUCTION OF ORNAMENTALS

The research revealed that socio-demographics are a shared commonality between the world's largest ornamentals markets. The countries with the largest ornamentals production are all home to the largest consumer demand. In other words, they are highly self-sufficient, with the exception of specific products or seasonal external trade flows.

For example, The USA is highly self-sufficient in plants, trees and

shrubs, but over the past decades the domestic production of cut flowers eroded and the USA became reliant on imports. Colombia was ideally positioned to capture that market, and historically Colombia's market share in the USA hovers around 60%. This created a mutual dependency of that trade flow but the question is if such traditional trade flows will weather the changing times ahead?

While some countries stand out as massive and excellent growers;

they export the lion share of their output to one or more of the mature demand markets. This lead us to investigate the feasibility to build the research of the demand side on specific consumer target groups in specific urban areas rather than a traditional approach of countries. However, because most data is available at a national level, we had to start with a classification of the countries of interest and establish a basis of their commonalities as follows.

6 | METHODOLOGY

Our objective is to create a base of knowledge to improve the understanding of the future supply and demand dynamics for ornamentals. Our attempt in this initiative has been on presenting our stakeholders with industry validated insights on the development of global demand and production.

We have used different methodologies to answer the questions. These methodologies are based on best practices, data availability, replicability, and simplicity. In many cases, we have applied new and existing data sources to view unanswered questions from a different perspective.

DATA COLLECTION GENERAL MARCO DATA

Our fundamental reasoning is that the production of ornamentals will almost exclusively be driven by demand.

Hence, the big forces at play in our global societies and economies will be leading in the development of demand and supply. This data is widely available and reliable. We mainly used global institutions like the World Bank, the United Nations, and OECD and enriched this where needed with various departments and statistical offices of both national, regional and local governments, down to city level.

ORNAMENTALS INDUSTRY

Availability and reliability of secondary data is an issue and AIPH and their partners have been working on improvements in this field. It is widely known that the statistics of the ornamentals industry are fed by an array of sources which vary significantly in their quality and reliability. Many organisations are limited in collection capacity, for example due to their position in the value chain. If they are not directly

embedded in the value chain itself and as such connected with the product and information flows, they are dependent on others for provision of data. We see that this decreases the volume, quality and consistency of the data.

The only certainty in global ornamental production data is to assume that it is inconsistent and polluted and needs cleaning, validating and enriching to create a representative basis.

This is an ongoing and highly important effort of AIPH and Union Fleurs of which the results are published in the International Statistics – Flowers and Plants Yearbook (www.aiph.org).

We have conducted primary research because available data for the ornamental industry is inadequate, particularly for forecasting purposes. To create a more reliable data set for analysis we have conducted expert interviews with industry players from all around the globe and over the

entire course of the research.
Like the 153 Chinese floral retailers in traditional and online platforms, or the 50 extensive and detailed face-to-face interviews with the seasoned, top-level breeders, growers, wholesalers, industry associations, academics, government organisations and suppliers of input materials.

As a result of the primary research and interviews, we decided to establish a permanent structure for a global network of so-called expert committees. This provides a basis for additional future research and specific deep dives. The basic principle is that these players and experts are best positioned to provide us with a detailed understanding of the context behind the available data and analysis. Each of our expert committees has validated and enriched the findings we had for their respective region, resulting in a global co-created research project

ANALYSIS

With data input established to an acceptable optimum, we had to develop a model to assess the status quo of the present-day demand and supply and identify the drivers for future growth. The analysis and forecast are based on two models (each fed by underlying models). One model is to fully reason from demand developments. The second is based on the ornamentals production base where we integrate the performance in volume and value of the past, the status quo and expectations of the industry itself.

OUTPUT

We have not produced one plain global forecast, but present detailed projections for demand in specific demographic and geographic markets. The combination of this main report and the series of workbooks cover the majority of global production and demand value. Furthermore we believe to have delivered a methodology and framework which are the basis for the ongoing research efforts of the International Vision Project.

FURTHER RESEARCH

Due to the wide scope of this Vision Project, which spans the entire globe, over a 15-year forecast period, we aim to develop a basis on which further collaborative research can kick off. The research project will be ongoing and is never complete or finished. This report is intended to be a starting point for an organic process where players and stakeholders can further co-create the knowledge base to develop the ornamentals industry.

Some key findings were enriched with deep dives and case studies and are presented in what we call Workbooks. These should be considered the first examples, or a template, that can be applied to analyse the dynamics of other production and demand centres.

7 | ECONOMIC BACKGROUND

We have started with the mainstream economics: either external factors or internal factors are the causes of the economic cycles. Also known as supply-side and demand-side, following Say's law that supply creates its own demand, while demand-side explanations argue that effective demand may fall just short of supply, potentially yielding a recession. Most economists believe that society is capable of preventing future recessions through effective planning and economic policies. Thus, a recession would be followed by an economic recovery. This is relevant because our research forecast period stretches until 2030 and spans the entire globe. As such it is inevitable that the covered economies will face a variety of growth cycles during this period and government policies can interfere with the forecasted trends.

CORE AND PERIPHERY

The idea of core and periphery regions is that some political/geographic areas develop faster because of human and physical advantages and turn into the core and other areas that lack such advantages become the less important periphery. Core areas are likely to experience greater growth, investment, and net migration gain; while the peripheries may well be exploited and could even suffer from lack of investment. In ornamentals this is reflected in the spatial distribution of the main demand markets which traditionally are concentrated in the high-income regions which have an additional advantage of networked logistic hubs to import or trade large volumes of perishable ornamentals.

Even in the major production centres of the globe stand out a handful of core drivers; they either have climatic and natural advantages or have the spatial advantage of being close to the demand markets, or they just have a competitive advantage in input costs such as labour. Demand, as well as production for ornamentals has clearly developed its own hot spots.

The world system theory assumes that a capitalist world system has existed from as early as the 16th century and that an international division of labour has been created.[4]

The model divides the world and labour into two areas;

1. Core, assumes that the core focusses on high skilled capital-intensive jobs and industries.

2. Periphery, assumes that these areas focus on more low-skilled labour-intensive industries and jobs.

4 Immanuel Wallerstein developed the world system theory in the 1970's.

Figure 2: Country Selection Model and indicators

WORLD CORES

In world systems theory, core countries are the industrialised capitalist countries on which periphery countries and semi-periphery countries depend. Core countries control and benefit from the global market. They are usually recognised as wealthy nations with a wide variety of resources and are in favourable locations compared to others. They generally have strong state institutions, a powerful military and powerful global political alliances.

This model cannot only be applied to countries; it is valid on a higher aggregation for entire regions, or on a lower aggregation for provinces, cities and even neighbourhoods within cities.

CORE CITIES

As well as core regions, there has also been the development of core global cities. These cities have become known as world cities, global cities or alpha cities. Tokyo, London and New York are generally regarded to be the most important global cities, followed by cities like Paris, Shanghai, Hongkong, Sydney and Singapore. Many of these cores interconnect with their peripheries into so called Megalopoli and have shaped into urban corridors.

We started the research at a global level with three world cores and gradually zoomed in to a few core cities and their peripheries which are found to be relevant for future demand growth for ornamentals.

COUNTRY SELECTION MODEL

Initially the project was based on a broad collection of countries of interest. These were generally divided in either supply or demand markets, except for The Netherlands which, due to the large trade flows, has a unique position in both. That list was composed by reference to published economic growth forecasts, anecdotal references or personal interest of the stakeholders. The first step was to add a ranking to that list and by means of quantification make the geographical scoping more objective. For that purpose, we have developed a country selection model which compared the performance of 42 countries over a 40-year period based on 15 socio-economic and industry specific indicators[5]. The result was an unbiased selection of past performance in either production or consumption.

5 Data sourced from various national statistical offices, the World Bank, FAO, UN
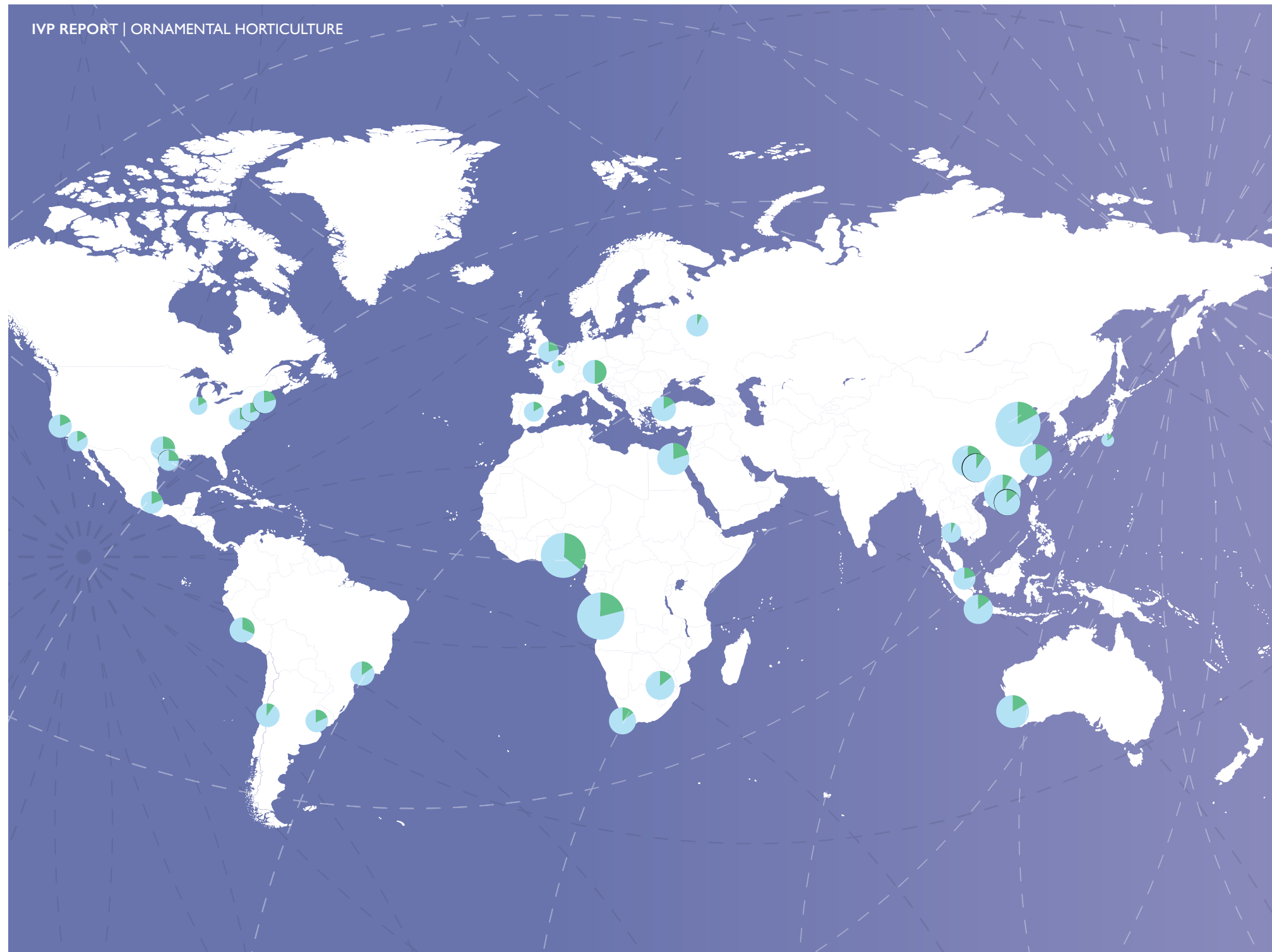
DEFINITION OF A CITY

When we speak of a city we regard a city not only as a clearly defined governorate confined by jurisdictive boundaries. In this research the social and demographic developments are significant factors of influence and in that context, we see a city as a collection of agglomerations with individuals with a variety of properties and habits that influence how their consumption will evolve. We recognise that political, economic and natural factors will determine the attractiveness of a city and cause population levels to fluctuate and explicitly attract or deter social classes (income groups) or age groups over time.

We treat a city more as a collection of a central core city with surrounding periphery cities which all together combine into a greater urban area spanning multiple municipalities, counties and sometimes even countries. Initially we have assessed the effectiveness of this methodology by deep diving into one megalopolis; Tokyo, Japan, also known as the Tokaido corridor. The urbanisation zone runs mainly along the Pacific coast of Japan and includes cities like Tokyo, Yokohama, Nagoya, Kyoto and Osaka. It ranks as the world's number one as the urban area with the highest GDP (€3.520 Billion) and is home to 74 million inhabitants.

This case validated the assumption to mainly focus the research on the demand developments in and around the three world cores, as we found that not only in the past they have dominated the demand for ornamentals, but that this will only grow further during our forecast period to 2030.

Of course, other large urban areas in emerging markets will enter the world stage as well as networked cities with sizable spending power, but in terms of current value and expected growth they are far outnumbered by the current cores. These emerging areas in South East Asia, Latin America and Africa will see growth in relatively isolated demand hotspots in and around their own core cities. External trade is limited and currently that demand is met with mainly domestic production. However, if disposable income rises, demand and behaviour are likely to change and external trade potential (imports) for ornamentals will rise. We recognise this trend and will likely dedicate additional research to these areas in due time.

DEFINITION OF CONSUMPTION

In this research we refer to consumption as the final purpose of economic activity. The aggregated value of goods and services bought by people. We regard the level of consumption per person as a central measure of an economy's productive success.

Consumption is normally the largest GDP component. Consumption may be divided in three categories: durable goods, non-durable goods, and services. These three categories often show different paths of growth.

CITY SELECTION

Based on the screened countries of interest and the research objectives, we wanted to further look at areas where the greatest growth or emerging demand can be expected.

The scoping process started with a dynamic long list of all major current and projected demand markets that were subjectively put forward by our stakeholders during the research process. We were not after a large list of cities, but we have ended up with a selection of urban areas that clearly illustrate the dynamics of supply and demand for ornamentals and can serve as benchmarks for other urban areas.

A more specific city level approach, rather than a general country approach, will likely reveal new and relevant insights for the ornamentals industry. Cities continue to be the engines of the world economy and global consumption. Cities tend to have better education and training systems that feed the talent pool and attract students with high attainment rates from elsewhere, as students tend to stay. Such large pools of skilled workforce then attract businesses that can serve a sizable customer base. As new businesses cluster together, jobs are created, incomes rise and a new target group for ornamentals is born.

CITIES IN SCOPE

In the first stage of the scoping, our research yielded a database of 295 cities[6] which were analysed on their current and projected performance on indicators like economics and demographics.

Of this long list we drilled down to 40 relevant cities which were selected on factors like projected consumer spending, disposable income, home ownership, infrastructure, health, education, sustainability, liveability and other factors. The criteria for this selection were quite subjectively based on the interest of the stakeholders, data availability and most importantly their replicability to comparable cities in their regions. The latter, in terms of the cultural and societal perception of flowers and plants, quantified in consumer and government spending towards ornamentals.

Not surprisingly, most of the 40 selected cities are part of large metropolitan clusters in one of the three world cores, so we could focus on a limited number of metropolitan clusters in each world core to arrive at a representative geographic target for this initial research phase.

8 | ECONOMICS OF THE ORNAMENTALS INDUSTRY

Evidence from a wide variety of sources has clearly underpinned the prediction of tremendous growth in global purchasing power. We have been able to pinpoint that growth of demand not only to countries, but more specifically to consumer segments within urban areas. An important question for this International Vision Project is whether and how the ornamentals industry can keep up and satisfy that demand.

This takes us back to the economic principle we started out with. For this research, we assumed that demand drives production and not the other way around. From the objectives of this vision project, that needs to address the development of an entire industry across the entire world over a 15-year period, we had to focus and exclude variables. Since our belief is that production will follow demand,

the focus was directed to forecast the developments of global demand for ornamentals. Our belief that this fundamental economic theory applies to ornamentals is based on two facts:

1) The primary drivers for ornamentals demand are influenced by socio-economic and demographic factors. For instance, as disposable household incomes rise, consumption of non-necessity consumer goods will start to take off and this includes ornamentals. So, the total aggregated category of cut-flowers, indoor plants, outdoor plants, garden and lawncare services and even public green space is primarily dependant of an economy's purchasing power followed by a changing consumer demand and changing buying behaviour.

2) Simply, because we believe that for the generic ornamentals category,

and the perishable nature of it, supply cannot be pushed at any price. Ornamental plants and flowers cannot be kept in stock for extended periods to wait for an optimum market price. They need to be moved quickly and effective planning of production to meet (seasonal) demand peaks is a key driver for profit or loss.

Take the seasonality in demand of outdoor plants in spring, and for cut flowers the peak days of special consumer events like Valentine's Day, Mother's Day and the Chinese Singles Day, where retailers report to make the same turnover in just a few weeks or even days as in the remainder of the year, and we see that demand is the main factor at play. Even despite that the industry may have helped to build such events and connect them to flowers.

In the case of the ornamentals industry we must treat this cautiously and elaborate on the definition of demand.

We saw that the prime criterion for demand growth for ornamentals is a growing segment of consumers passing higher income thresholds at which consumption in non-necessities like ornamentals takes off. Above such a threshold there is certainly a supply force at play that can drive per-unit spending or help to position specific products. For example, new crops and innovative (niche) varieties tend to be positioned with the help of smart pull-marketing campaigns. Yet this segment is very small in size and the effects are not included in this research.

Also, we must mention the service segment of ornamentals.

In many transactions, it is not the product (the flower or plant) that attributes the greatest monetary value, but the service that is provided with it. The product has only become an ingredient, or as one respondent called it "the paint and brushes of an artist". This is a growing segment and includes various players which all operate in a similar fashion. For example, the consumer market for major life events such as weddings and funerals; business services towards commercial or public entities for office decorations, green work places and events; and lastly, public services for planning and installation of urban green spaces.

PROF. DR. CHARLES HALL, TEXAS A&M

Two not-so-well-known, but insightful economic principles can be summarised as follows: (1) expenditures rise to meet income (C. Northcote Parkinson) and (2) people afford what they want (Lowell Catlett). The green industry's job (growers, service providers, and retailers alike) is to make sure they are providing #2 in such a way that they capture their fair share of #1. Stated slightly differently, if the green industry can position itself in such a way that its products/services are considered as necessities in people's lives and not mere luxuries, that is the best recession-proofing and weather-proofing it can do. Let's examine this a bit further. The value proposition for the green industry in the future must focus on the unique ways in which quality of life is improved for its customer base.

Much research has validated the emotional and environmental benefits of flowers, plants, and trees. In a nutshell, green industry products and services improve emotional health, boost seniors' well being, enhance hospital recovery rates, enhance employee innovation and ideas, strengthen feelings of compassion, decrease worry and anxiety, express feelings of compassion, build stronger communities, mitigate environmental externalities, and improve the economic value of homes – to name just a few of the benefits.

The green industry cannot over emphasise the importance of this quality of life message, particularly in focusing its differentiation strategies in the future. That is because whether a member of the Boomer, Gen X, or Gen Y generation, quality of life is a *"higher order"* need that is important to all.

For example, although the economic downturn has increased anxiety on the part of Baby Boomers about retirement, they are nevertheless proactive in seeking innovative solutions to dealing with age. They view their new stage of life as one of activity and fulfillment rather than idleness. Gen X is the most *"time-starved"* generation, often juggling career and family obligations, but they maintain a strong commitment to work-life balance in their lives. The Gen Y generation is just beginning their adult lives and facing lots of firsts: their first home, first job, and most importantly, first independent income. They are trying to find the right balance between spending for necessities and spending for entertainment. This generation is concerned not just with function and utility but also with style.

All of these generational attitudes come down to one thing – enhancing the quality of their lives through emotional well-being, ecosystems benefits, and economic paybacks. Research shows that there's no better way to do this than through the daily use and/or enjoyment of flowers, plants, and trees.

All the green industry has to do now is convince consumers of this in a manner that they view their products and services as necessities instead of luxuries. This will, of course, make the industry even more recession resistant in the future.

WORLD PRODUCTION OF ORNAMENTALS

The research revealed that socio-demographics are a shared commonality between the world's largest ornamentals markets. The countries with the largest ornamentals production are all home to the largest consumer demand. In other words, they are highly self-sufficient, with the exception of specific products or seasonal external trade flows.

For example, The USA is highly self-sufficient in plants, trees and shrubs, but over the past decades the domestic production of cut flowers eroded and the USA became reliant on imports. Colombia was ideally positioned to capture that market, and historically Colombia's market share in the USA hovers around 60%. This created a mutual dependency of that trade flow but the question is if such traditional trade flows will weather the changing times ahead.

While some countries stand out as massive and excellent growers; they export the lion share of their output to one or more of the mature demand markets. This lead us to investigate the feasibility to build the research of the demand side on specific consumer target groups in specific urban areas rather than a traditional approach of countries. However, because most data are available at a national level, we had to start with a classification of the countries of interest and established a basis of their commonalities as follows: *(figure 4 overleaf).*

CONCLUSION ON CLASSIFICATION MODEL

Based on this model we have started to profile the demand in high-value markets; the mature domestic producers.

To understand which type of demand will occur when and where, we can take specific consumer cohorts which seem to develop similar income and behavioural patterns regardless of where they live.

Considering the fact that the world will urbanise rapidly, and that spending power is increasingly concentrated in cities, we decided to take the research a level deeper to a city-level, rather than a country as a whole. This approach also makes sense from a current and historical point of view because the perishable nature of ornamentals requires a well-developed logistics network. Domestic and international product flows pivot around the logistic hubs of the large metro clusters, often in the world cores. These hubs have grown to their present-day size and interconnectedness for a reason; they are dominant due to large populations and high economic performance. They are home to target groups that either have driven, or will emerge to drive, global demand for ornamentals in the future.

MATURE EXPORTING PRODUCER

Countries that have attracted ornamentals production mainly because of their natural or economic resources. Typically, the flowers (or plant material) find their way all around the globe but mainly flow into the world cores where the mature domestic producers complement their demand with products of these countries. They have shown stable volume and value growth and have been in business for decades.

For example, Ecuador and Colombia stand out for their high altitudes at which high-quality crops as large bud roses thrive well. In East Africa, Kenya and Uganda can provide locations at altitude, good climatic conditions and strong workforces.

MATURE DOMESTIC PRODUCER

Further in this report we will take a closer look into mature demand markets. They already satisfy the majority of their demand with their own production. They are all in the current world cores and are the largest consumption markets now and remain so by 2030.

It is in these markets that during the forecast period the biggest absolute demand growth is expected, hence it makes sense to question their ability to increase production volume.

Mature domestic producers are markets like North East Asia (China and Japan), North America and Europe which have a strong production base and ornamentals are at the heart of their society's cultures.

EMERGING DOMESTIC PRODUCER

Worldwide the general expectation is that future demand will be met as locally as possible, it is possible that Brazil invented that statement. Their highly efficient production area of Holambra has developed a value chain with well-connected logistics, fast information flows and reliable financial transactions. Growers and their industry bodies have put all in place to serve the upcoming demand of the large metropolitan clusters of Sao Paolo and Rio de Janeiro. The economic performance of that region is lagging behind that of other areas and despite the potential, growth is postponed.

Mexico is seeing a comparable situation; a strong potential, but not kicking off yet. Their production base of over 16,000 hectares of ornamentals mainly serves the domestic demand with a relatively small export of €26 million to the USA. Over Brazil they have the benefit of bordering a mature demand market which could trigger an increase in production in Mexico. India is a very clear example; over 2 million hectares of ornamentals production but hardly any external trade. Ornamentals and specifically cut flowers are strongly embedded in society and demand is gigantic. Nearly 90% of the production base is grown for so-called loose flowers which are used in religious rituals. The external trade is negligible at €20 million imports and €100 million exports.

EMERGING EXPORTING PRODUCER

These are the upcoming markets which have the same natural and economic enablers as the mature exporting markets but are succes-sfully increasing their competition for a share of the export markets.

REST OF WORLD

Obviously not all markets fit one of these four categories. In this stage of the research we focus on countries with either production or consumption above €100 million and include these in this category.

Figure 4: Classification of Ornamentals Supply and Demand Markets
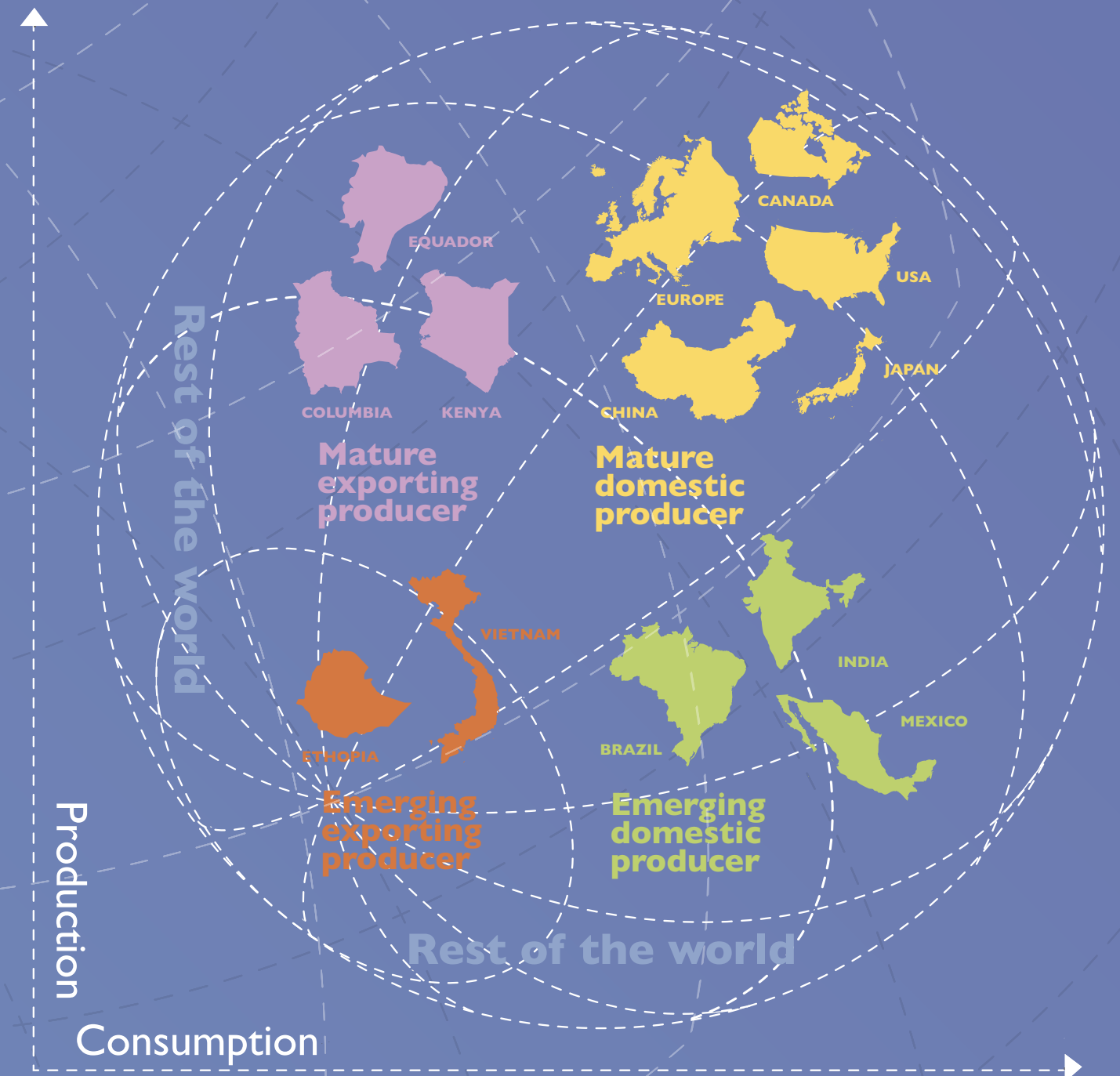
9 | SOCIO-ECONOMICS IN CITIES

Cities are key; by 2030 consumers in large cities will account for over 81% of a forecasted total of €67 trillion of global consumption. These same urban consumers will generate over 91% of the €20 trill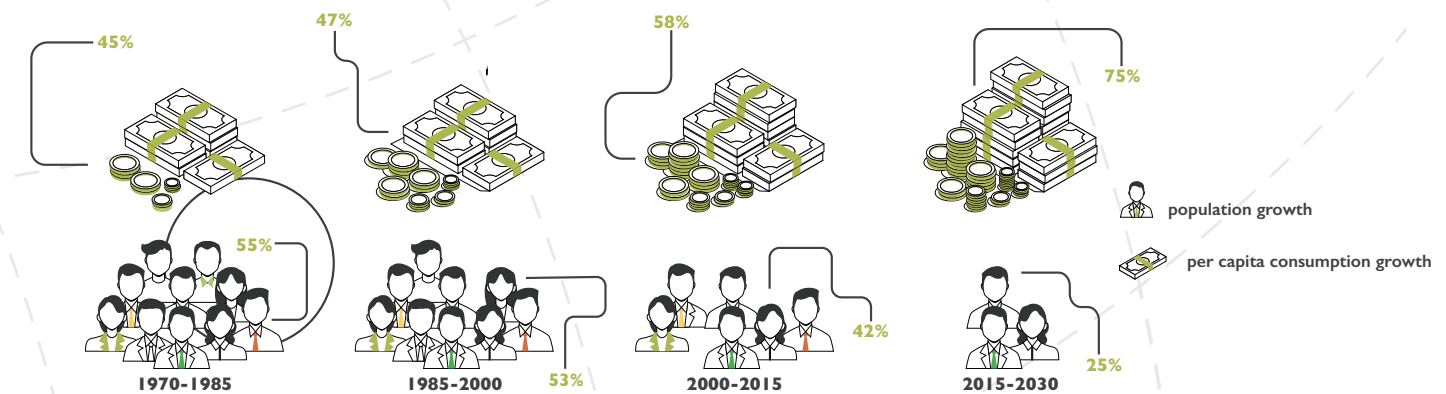ion growth of global consumption till 2030[7]. Global urban consumption is extremely condensed; the world's top 32 cities are likely to generate 25% of the €20 trillion urban consumption growth, while the world's top 100 cities will account for 45% of the growth[8].

Growth of consumption seems to be a more important driver. of growth than growth in population or GDP.

Although the population continues to grow, the pace of growth is slowing down over the forecast period. Until 2000 more than half of the total growth was driven by the growth in population. In the forecast period that will reduce to just 25%[9] with the remainder coming from each individual spending more.

Although nearly 97% of the world's population growth till 2030 will occur in cities[10], their populations will account for nearly 70% of the world's population and 81% of global consumption. Yet they are responsible for 91% of the global consumption growth till 2030[11].

45%   47%   58%   75%

55%

42%

population growth

per capita consumption growth

1970-1985   1985-2000   53%   2000-2015   2015-2030   25%

7 World Bank City Analytics, own calculation
8 Research calculation based on secondary data forecasts
9 World bank data and calculations based on rising general per capita income adjusted with the changing age composition
10 United Nations Population division, world population prospects, 2017 revision
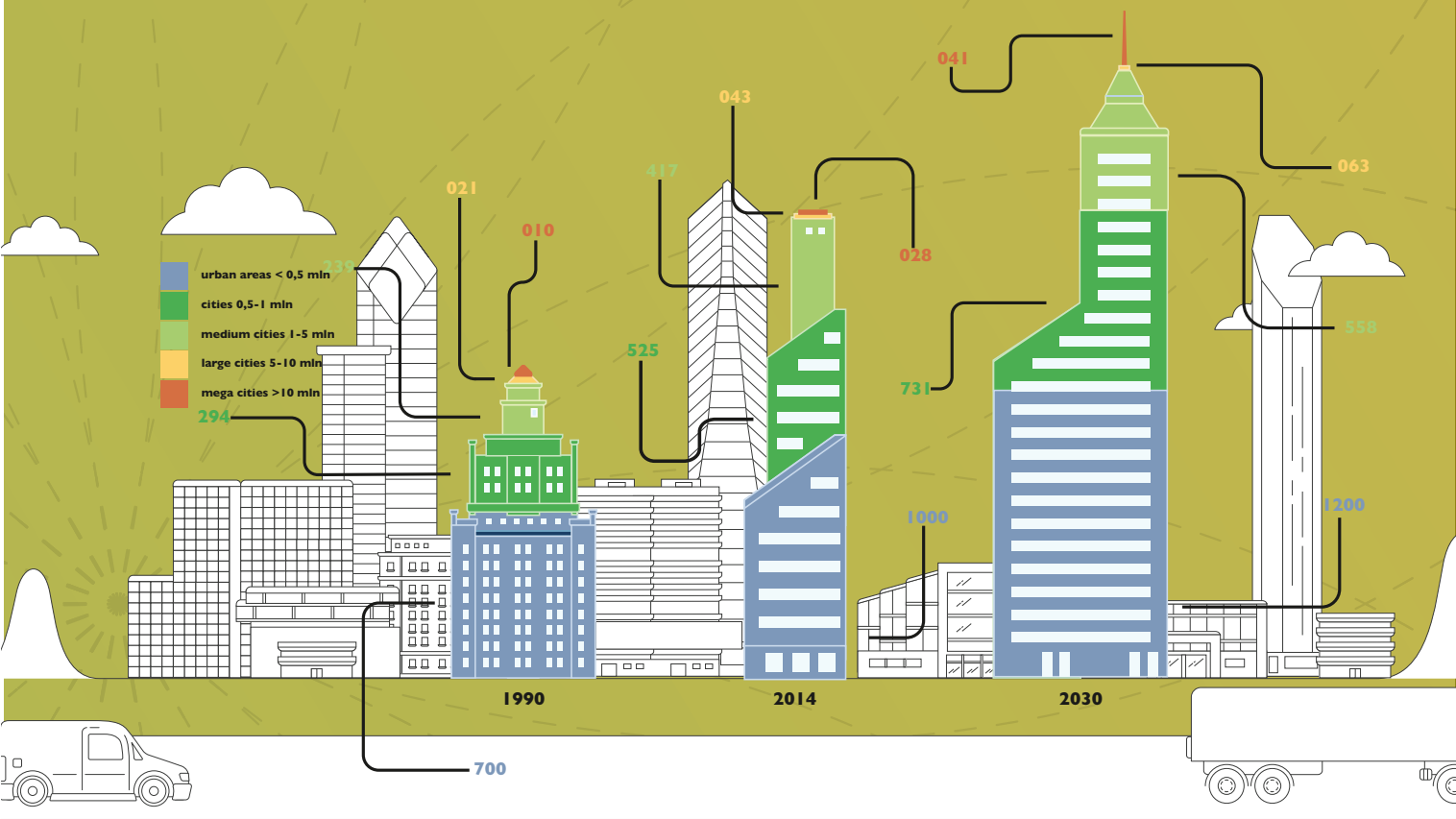11 OECD

Figure 6: Growth Path of the World's Cities

urban areas < 0,5 mln
cities 0,5-1 mln
medium cities 1-5 mln
large cities 5-10 mln
mega cities >10 mln

1990   2014   2030

Figure 7: Urban Consumption Value Growth 2015-2030

2015 Consumption Value

Tokyo — New York — London — Los Angeles — Osaka — Chicago — Rhein-Ruhr — Houston — Washington DC — Nagoya — Paris — Dallas — Boston — Sao Paulo — Philadelphia — San Francisco — Mexico City — Atlanta — Hong Kong — Miami

2015 – 2030 Absolute Growth

London — Tokyo — New York — Beijing — Shanghai — Houston — Los Angeles — Tianjin — Dallas — Chongqing — Mumbai — Mexico City — Osaka — Washington DC — Atlanta — Wuhan — Istanbul — Guangzhou — Jakarta — Chicago

2030 Consumption Value

Tokyo — New York — London — Los Angeles — Osaka — Houston — Chicago — Dallas — Washington DC — Rhein-Ruhr — Beijing — Shanghai — Nagoya — Mexico City — Paris — Sao Paulo — Boston — San Francisco — Atlanta — Philadelphia

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12 World Bank Analytics

13 UN population data 2017 revision

14 World Bank, Research calculation based on secondary data forecasts

15 Canback GIDD dataset 2017

Cities like Seoul, Budapest and Bogota account for 50% of their countries GDP. Alpha cities like Tokyo and London, account for around 20% of their nation's GDP. The large urban area (megalopolis) of Tokyo/Osaka in Japan is likely the world champion and contributes around 79% to the Japan's GDP[12].

In sync with the UN forecast that in 2050, 70% of the world's population will live in cities[13], we trust that our methodology for this research will be effective to meet the research objectives. By focussing on cities rather than nations, the outcome will provide more specific insights to feed further research and policy development.
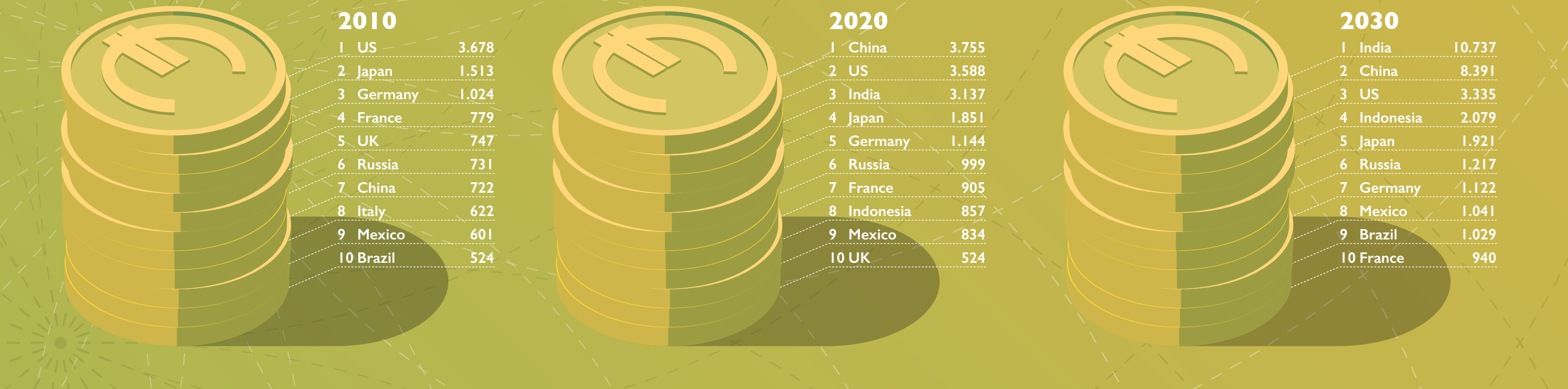
Global population growth does not distinguish between the size of a city; growth is very evenly distributed among the various sizes of cities. Consumption and growth are under increasing pressure in many countries as population growth slows and urbanisation rates are maturing. 6% of the large cities we have studied (most in the developed world) are seeing a decline in their population. Others, mainly in emerging countries are growing. In China alone, nearly 700 large cities (>150,000 inhabitants) will account for 30% of the total global urban consumption growth till 2030[14]. Cities are crucial in this research and may hold keys to unlocking a reliable statistical model to predict developments in demand for ornamentals in and around cities. After all; Cities are at the heart of where demand for ornamentals originat es from. Not only from an economic principle of purchasing power, but also from a perspective of logistics and infrastructure for these highly perishable products.

CONSUMPTION IN CITIES

Global consumption is concentrated in just a few hundred cities; the top 100 cities are expected to generate 45% of global consumption growth. Of these only 32 take 25% of the total global consumption growth[15]. The below ranking shows the top 20 of cities for the most consumption growth till 2030 in absolute figures and billion-euro values. Note that the top 20 in 2015 only includes two cities of the emerging world and that the ranking with the highest absolute growth includes 10 cities from the emerging world of which 6 can be found in China.

Figure 8: The New Big Spenders; Middle Class Consumption in Billion Euro

2010

1	US	3.678
2	Japan	1.513
3	Germany	1.024
4	France	779
5	UK	747
6	Russia	731
7	China	722
8	Italy	622
9	Mexico	601
10	Brazil	524

2020

1	China	3.755
2	US	3.588
3	India	3.137
4	Japan	1.851
5	Germany	1.144
6	Russia	999
7	France	905
8	Indonesia	857
9	Mexico	834
10	UK	524

2030

1	India	10.737
2	China	8.391
3	US	3.335
4	Indonesia	2.079
5	Japan	1.921
6	Russia	1.217
7	Germany	1.122
8	Mexico	1.041
9	Brazil	1.029
10	France	940

THE RISE OF THE URBAN MIDDLE CLASS

The middle class or consuming class is defined as individuals able to buy goods and services other than those that satisfy their basic needs. According to a study of the World Bank, persons with a disposable income of more than €10 and lower than €0 per day, will start spending on a wide array of consumer goods. The size of this class has doubled since 1990 and will grow by an additional 2 billion people till 2030 of which more than 50% will live in large cities in emerging countries[16].

Asia and more specifically China and India will cause the global rise of this consumer class. By 2030 70% of China's population is expected to be in the middle class. India could become the largest middle-class consumer market by 2030 surpassing the USA and China. It is expected that India is home to 1 billion people in this income group by 2039[17].

Demand for goods and services beyond necessities will soar further because year by year millions are entering to income

levels at which their buying pattern changes and consumption increases. Yet different product groups tend to take off at different income levels, which means that depending on the income level of a city, the type of goods or services will vary. For instance, in China spending on dining starts to increase at an annual income level of €2,500 per household, and by €7,500 that spending booms. Credit card penetration starts around an income of €8,000 and people start to spend on holidays and leisure travel at an income of around €15,000 per year[18]. The same World Bank research provides no data on ornamentals, this is a category included across various other monitored categories like home furnishings (lasting indoor (green) plants), discretionary expenditures (gifts), leisure and recreation (gardening). At this moment it is not possible to filter ornamentals out of these data.

SLOWING POPULATION GROWTH

Global population growth in cities is still continuing but at a slower pace. This

is very important because in the past expanding populations have been the key drivers of economic growth. Even in the first decade of this millennium, population growth accounted for 60% of consumption growth, while per capita income increase accounted for the remainder.

Till 2030 the rate of urbanisation is expected to be slower than it was in past decades[19]. This eliminates an important driver of growth for cities. Many are already showing stagnation or decline in population. Most of these are in developed countries where urban migration and aging started earlier than in emerging economies.

SHRINKING CITIES

In Western Europe over 75% of cities are currently shrinking and even in China the cities of Fushun and Yichuan are in decline. Nearly 40% of the studied cities are expected to experience a growth of less than 1% per annum till 2030[20]. Besides ageing populations, shrink is also influenced by policy arrangements. Constraints on availability of land and housing developments have an upward effect

on the cost of living and are slowing urban population growth.

Japan is again a beacon on the horizon of demographic developments with only 14 cities, clustered around the Tokyo megalopolis, experiencing inward migration and population growth of just 0.5%. The other 55 large Japanese cities have flat or declining populations[21].

CONSUMER AGE GROUPS AMONG CITIES DIFFER SIGNIFICANTLY

Large variations in city demographics illustrate the wide array of variation between cities in consumer profiles. Even within countries the oldest and youngest cities in for example, Spain differ in average age by 10 years and in the USA by 20 years. Picture the impact on a city which has a higher share of women.

in their childbearing years compared to a city whose wealthy retirees are about to migrate to other urban areas. The ability of cities to attract or retain a specific population segment will impact its consumption trends.

For ornamentals, research has shown that spending on gardening, garden products and garden services among retirees is higher compared to the younger age groups in the same regions. While the younger age groups tend to drive the area's consumption value up with their higher spending on flower days like Valentine's day and Mother's Day. Obviously, a city's age structure also influences the total value due to the volume and value of major life events such as weddings and funerals.
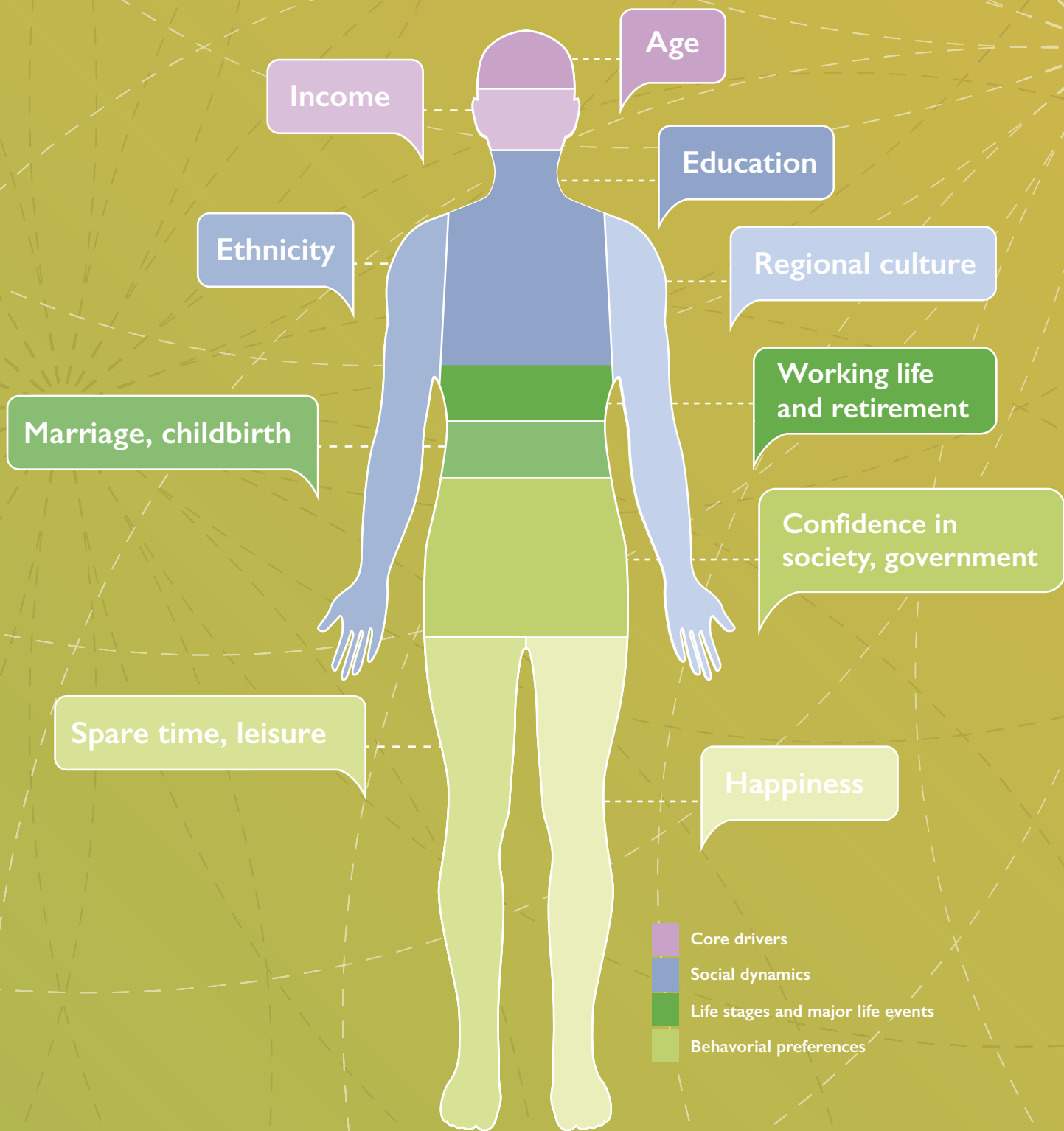
DEMAND PROFILES SHIFT WITH EVOLVING POPULATIONS

The importance of detailing the research beyond just the key economics and population is stressed by the following example where demographic factors are at play. Cities which at first glance are similar today can grow into opposites in 2030. If we would compare Memphis, Tennessee with Raleigh in North Carolina, we see two cities with a similar size of population (1,5 million), a similar demographic age composition, and a total consumption of €40 Billion.

However, in Raleigh, the number of jobs is growing, and Raleigh's population growth till 2030 will be mainly driven by some 500.000 people in the working age group. In the same period, Memphis' population is expected to grow by only 30.000 inhabitants of which only 20% will be of a working age. The economic impact of job growth and age is enormous; Raleigh expects to grow to around €100 Billion while Memphis will remain at €55 Billion[22].

A similar comparison between Boston in the USA and Beijing in China shows a similar divergent trend. Boston currently has 19.8% of the population at 60 years and older who in total accounted for €60 Billion consumption value. In Beijing that same age group takes 16.7% of the total population and €18 Billion in consumer spending. By 2030 the 60 plus group in Beijing is expected to grow to €100 Billion because the age group grows significantly in size as well as the total per capita spending in that age group is growing fast[23].

16 World Bank
17 Brookings Institution
18 World Bank Findex database
19 UN DESA
20 World Council on City Data
21 World Council on City Data
22 Moody Analysis
23 Moody Analysis

Age

Income

Education

Ethnicity

Regional culture

Working life and retirement

Marriage, childbirth

Confidence in society, government

Spare time, leisure

Happiness

Core drivers

Social dynamics

Life stages and major life events

Behavorial preferences

BUYING BEHAVIOUR

There is no such thing as an average consumer in an average market. Mature developed markets all contain cities which are already very different from each other and which will continue to diverge further from one another as consumption and population develops.

In emerging markets there are huge differences between their cultures on a national level but also within a country at a regional level. It is evident that their current (and developing) consumer behaviour will impact significantly on global consumption growth as the incomes in such markets rise and new demand develops.

From an economic perspective, we observe that demand for goods is growing, but that total consumption value is shifting increasingly towards services. This trend is caused by two synergistic factors: the increase in per capita income, in combination with the aging of large parts of the population. Particularly for ornamentals, this development is good news as a smaller relative share of income is needed for primary spending on housing and food and more budget becomes available for personal and discretionary spending, including services.

For example, the age group of 60 years and older, in developed economies in North America and Europe, is expected to increase its appetite for gardening and public green spaces as this group attributes value to a healthy life style and enjoys outdoor activities. This will not only drive the market for gardening but will additionally increase public spending across all government levels, on urban green space.

This brings us to an attempt to identify similarities in the factors that drive the development of cities, beyond just

population and GDP. We are convinced that consumer behaviour and the underlying key drivers of purchase decisions can reveal stereotypes of consumers across the globe, regardless of which country, province, city or neighbourhood they live in. That is how we arrived at treating the target group of the retired and elderly across North America, Western Europe and North East Asia as one, because their consumption and demographic patterns are similar. Of course, there are differences, but similarities seem greater and in each region this segment is the fastest growing consumer group.

It is tempting to explain changes in consumption by pointing to shifting trends in preferences and taste, just as the ornamentals industry has done so often. Certain colours, shapes and applications of plants and flowers, or even specific varieties, allegedly lost appeal among consumers and disappeared from the category, while others were introduced. Extensive research has been done on consumer groups and their behaviour, such as for the millennials in North America. Yet focusing on evolving consumer attitudes could imply that the only thing companies need is a strong marketing machine that eventually can force a consumer to buy anything. The truth of the matter is that much deeper forces are at play in consumer behaviour, and that these underlying forces are the true drivers that shape future consumption.

For example, if two generations have different consumption patterns although they share similar heritage, culture and socio-economic conditions, the reason is likely to be an evolving consumer preference or a change in the product or service offerings provided. But if those same two generations with the same heritage and culture, faced different socio-economic conditions, then

changes in behaviour may be in response to those conditions. Take the youngest group of North America's working-age population as an example. The fact that fewer of them own cars or houses than earlier generations did at the same age does not necessarily mean that they have less demand for a car or home ownership. Other factors are in play. The fact that they have lower average incomes and more student debt than previous generations means that these individuals are less able to afford to own such assets. The fact that this generation is getting married later is another reason why the rate of home ownership is lower than it was for the same age group in previous generations.

We are more likely to be able to predict consumption trends if we focus on understanding the underlying reasons for consumer choices. We drafted a methodology that connects with the changes in behaviour we have observed in the past decades to provide an understanding of changes in consumption over time. It considers four sets of variables that influence consumers' behaviour and specifically their motivation to purchase ornamentals. In this research we have covered all four factors, but not treated them as equally important in order to establish a foundation to build further research on.

SHANGHAI, CHINA

NEW YORK, USA

Credit: Shutterstock.com

AMSTERDAM, NETHERLANDS

Credit: Shutterstock.com

10 | THREE DEMOGRAPHIC DEMAND GROUPS

Urban consumers will generate the lion share of global consumption growth. Research of MGI[24] has identified three target groups which have the scale and spending power to reshape global demand and truly impact the world economy. These three groups are to cover nearly half of the projected total €20 trillion global consumption growth till 2030. They are:

1 The working middle class in China who by 2030 will have grown up in a China with a more liberal open economy than generations before them.

2 The working-age population of North America, a large group of consumers who generally have a tendency to keep spending despite facing income pressure.

3 The growing population of retiring and elderly people living in ageing developed economies of the mature domestic producers in the western world.

Their combined weight in global consumption growth reflects both their large numbers and their high, or growing, per capita consumption. For example; by 2030, cities in developed economies will

be home to more than 220 million people who are aged 60 or older, and there will be more than 190 million working-age consumers in North America. Members of each of these groups are already consuming €33,000 worth of goods and services on average every year. Almost 630 million people of working age living in Chinese cities and they are expected to more than double their average per capita consumption by 2030.

We have established that rising consumption by each consumer is the key driver of growth and that consumer behaviour will continue to further disperse, even within the classical segmentations like income, age and geographic cohorts.

To capture future demand, industry players will need a deep understanding of the consumption patterns of these target customers. They will have to identify – in much more detail – where growth will occur and understand the motivation of the individuals behind the demand figures. Equally important will be the tactics on how to address the demand by investigating the geographic markets, their segments and the trade channels that will lead to the right consumers.

In the case of the identified three large consumer groups the question for ornamentals is how supply can connect with that demand. All identified target groups are concentrated in areas that are home to a significant domestic production base and large external trade flows of ornamentals. Can the growing and changing demand be met by the current value chain, or do we need different products, service propositions and other value chains? The enormous size and value of the target groups justifies getting to know them much better. How is their spending changing, and why? How are their income, household structure, and ethnic composition affecting purchasing behaviour? How are their choices different from those of previous generations? How will the needs and wants of these large groups evolve?

We do not even remotely have all the answers to these questions. Luckily that is not the objective of this research; we present drivers and inhibitors that will impact the ornamentals industry. The most determinant factors are found on the demand side and more specifically within the socio-economics.

24 MGI is a private sector think tank

90%

58%

26%

Poor

70%

41%

10%

Middle Class

1%

2%

3%

Rich

2010 **2020** **2030**
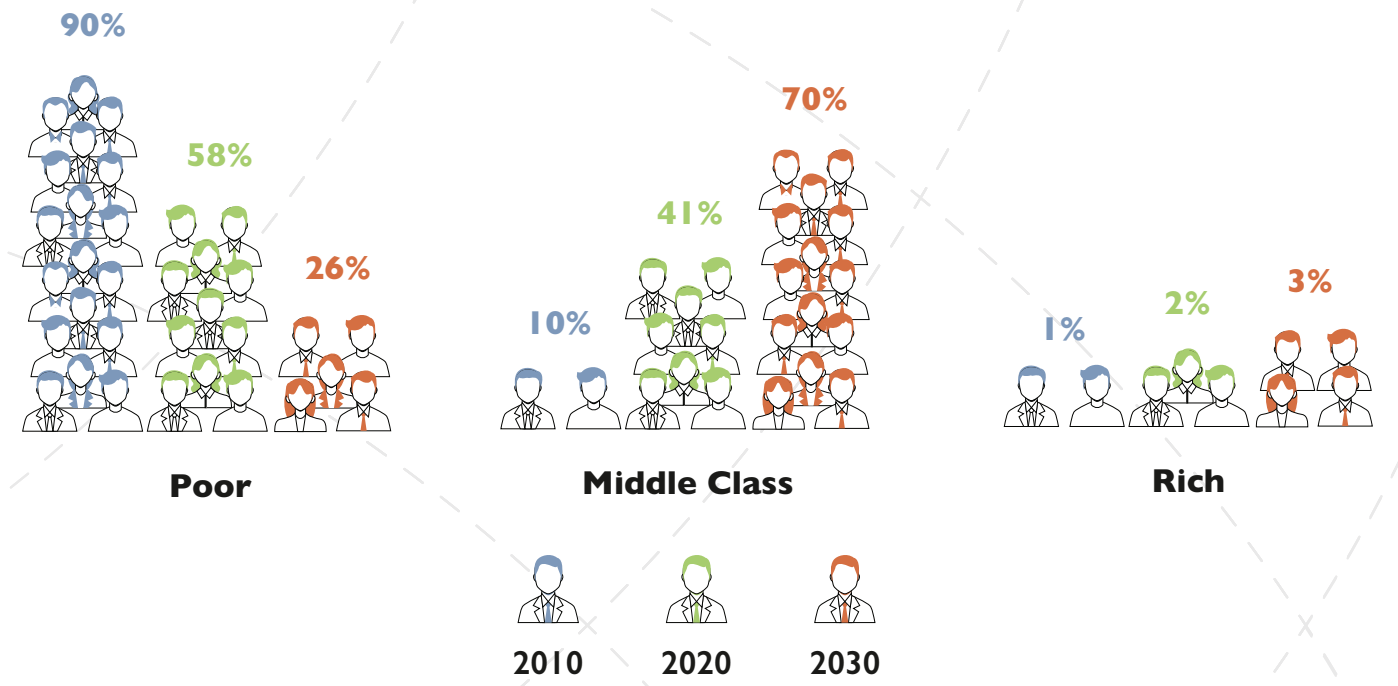
WORKING MIDDLE CLASS IN CHINA

A group of key consumers to watch is China's working population aged 15 to 59, a group of people which is nearly one billion in size today, of which approximately 521 million live in urban areas, will increase by nearly 20% to over 628 million urban workers by 2030[25]. Impressive numbers, but the real growth will be in the doubling of the per capita spending[26].

By 2030 these individuals will have lived their entire lives in post-reform China. This group alone will spend around 12% of worldwide urban consumption[27]. This target group has the potential to reshape global consumption just as the retired and old of the western world (the richest generation in history) has done in their era.

Spending on non-necessities such as personal care, dining out, recreation, and education among the wealthier members of this group already accounts for more than one-quarter of their consumption. These consumers are now reaching income thresholds at which spending on services takes off

rapidly. One major category of spending for this group is education as the current generation invests in the next.

CORE DRIVERS

The consumption of this group, of around half a billion people, is expected to increase from €2 trillion in 2015 to €8.3 trillion in 2030. This means that just 6% of the total world population of 8.5 billion in 2030 is contributing to 28% of the total global urban consumption growth over this period[28].

The key driver of this is the rapid growth of the Chinese middle class, and especially for ornamentals the growth in the share of the upper part of the middle class[29] is relevant; this is expected to rise from 4% today to 54% by 2030[30]. The below figure depicts the development of the income levels across all age groups[31].
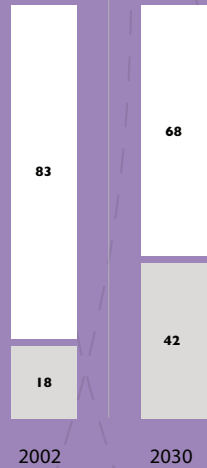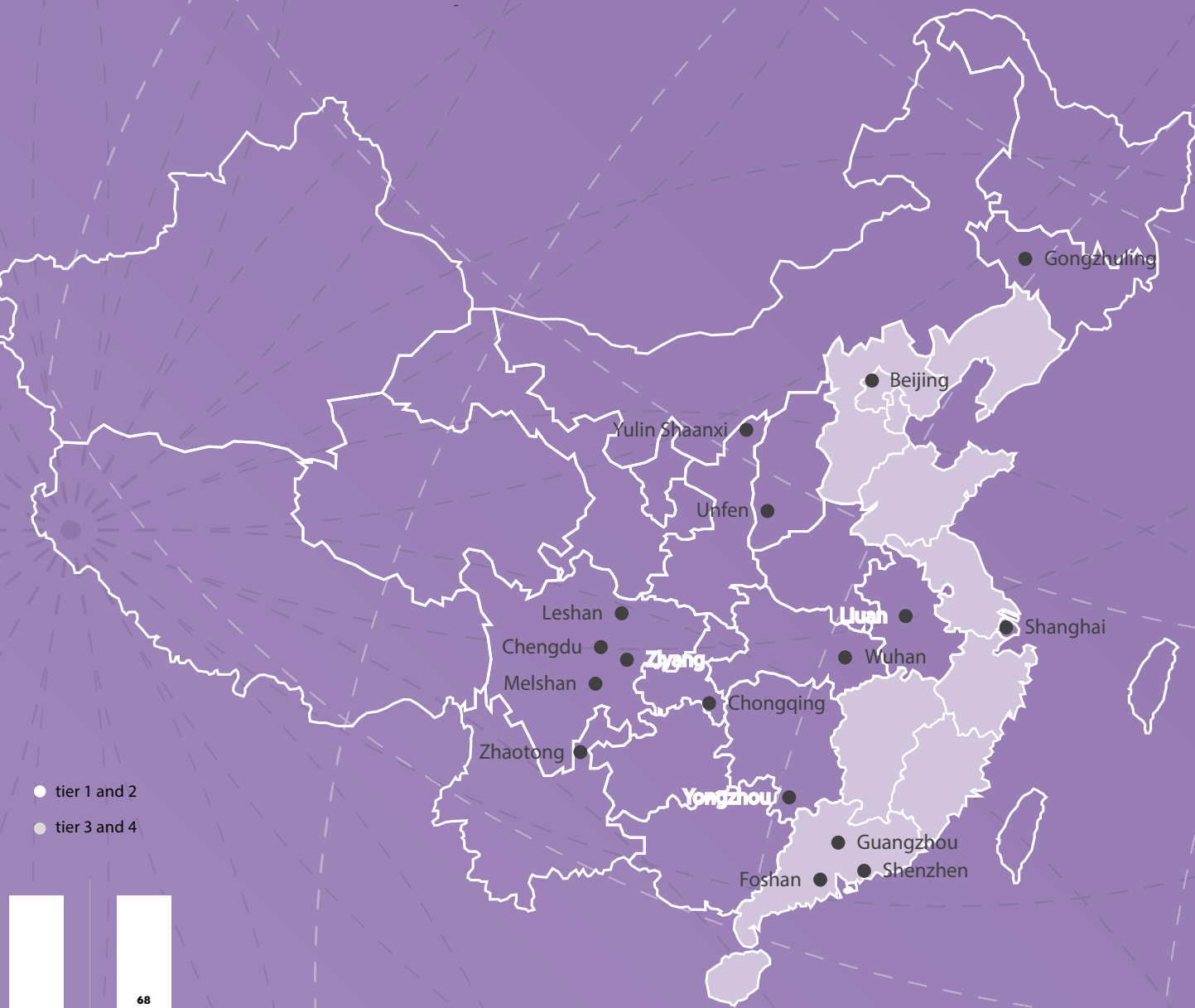
To differentiate among Chinese households on the basis of their income levels, we use poor, middle class, and rich. From now till 2030, around 40% of Chinese urban households will move out of the poor / low middle class into the middle class and some into the rich groups.

As mentioned before, the growth is concentrated in the smaller periphery cities (tier 3 and tier 4) around the well-known cores. The share of the middle class by geography is displayed in figure 9 which illustrates a confirmation of the weight we attach to the methodology of cores and their peripheries. For ornamentals this implies that attention to government planning for urban green space in and around these growth clusters will really take off in the decade to come.

25 UN DESA, World Bank

26 Yougang Chen, Fang Gong, here comes the modern Chinese consumer

27 World Bank

28 UN, World Bank

29 Monthly income between ¥13.500 and ¥20.000 Rmb

30 Brookings Institution

31 Income classes are defined as follows: Poor is €500 or less, mainstream middle is € 500-1750, upper middle is between €1.750-€2.600, and rich over €2.600

GENERAL NATIONAL ECONOMIC DATA

TOTAL COUNTRY POPULATION
1.371.000.000

OFFICIAL URBANISATION
56%

POPULATION GROWTH
0,51% p.a.

TOTAL GDP
10.842 billion Euro

GDP / SECTOR
9,3% agriculture, 44,4% industry, 46,4% services

Figure 10: China's Share of Middle Class by Tier

Gongzhuling

Beijing

Yulin Shaanxi

Linfen

Leshan

Chengdu · Ziyang

Melshan

Liuan · Wuhan

Shanghai

Chongqing

Zhaotong

Yongzhou

Foshan

Guangzhou
Shenzhen

● tier 1 and 2

● tier 3 and 4

2002	2030
83	68
18	42

URBANISATION OF THE GROUP

Today, 54% of China's working-age population lives in large cities; by 2030, that share is expected to have risen to 72%[32].

To give an idea of the scale of the presence of individuals of working age in China's cities, consider that 18.4 million people in this category live in Shanghai alone and that 16.6 million live in Beijing. Yet the highest shares of these consumers will not be in these cities but in cities like Dongguan, Foshan, Guangzhou, Shenzhen, and other manufacturing powerhouses in the centre and the south instead.

Manufacturing offers a great many jobs in these cities. In Dongguan and Shenzhen (both just north of Hong Kong), almost 88 percent of the entire urban population in each of these cities is of working age. This trend is not only caused by slowing organic growth or increasing economic and social pressure like cost of living, or quality of life in the cores they are close to, but also by municipal government policies. The coastal cores of Beijing and Shanghai both have deployed policies to control their population. Our research figures for instance suggest that the population of Shanghai will grow to around 35 million by 2030, but the local government has the ambition to control that growth to a maximum of 25 million to enhance liveability and economic performance[33].

32 UN ESA, World Bank
33 City of Shanghai, Shanghai Master Plan 2017-2035

CHINA'S CITY TIER SYSTEM

There is no official definition for the city classification of tiers and a variety of different methods for classification are used such as: Gross Domestic Product (GDP), political administration, population size, development of services, infrastructure, cosmopolitan nature, retail sales etc. However, it is generally considered that there are four tiers with different consumer behaviours, income levels and business opportunities.

Generally, each city is first classified by GDP. China's cities range from €290 trillion to minor cites with GDP under €17 billion:

- Tier 1: > €300 billion
- Tier 2: between €68–299 billion
- Tier 3: €18–67 billion
- Tier 4: <€18 billion

Secondary four levels of political administration are applied:

- Tier 1: cities directly controlled by central government
- Tier 2: provincial capital cities and sub-provincial capital cities
- Tier 3: prefecture capital cities
- Tier 4: county-level cities

Note that the special administrative regions of Hong Kong and Macau are not classified within the tier system, they are described as special economic zones.

And as a third indicator, population size is applied to determine the tier bracket. The core city and urban areas surrounding the main city are considered as one metropolitan area by population:

- Tier 1: > 15 million people
- Tier 2: 3–15 million people
- Tier 3: 150.000–3 million people
- Tier 4: <150.000 people.

FAMILY STRUCTURE

China's one-child policy has had a significant effect on traditional family structures, leading to a shortage of younger relatives to take care of a rising number of old people. The one-child policy has led the country to have big gender gaps, as parents often preferred male babies. This means that by 2020, there will be 30 million unmarried men in China. And in 2055, about 15% of men in China won't be married when they are 50. This policy has also had a significant effect on per capita consumption up to the age of 29 which is higher in China than in other countries. Parents of an only child have more resources to devote to that single child.

Similar to observations in the developed world, this group is marrying and having children later. In China there are more factors at play; both social and economic reasons are behind delayed marriage. The fact that the Chinese are spending longer in education appears to be one reason: they are simply older and therefore marry later. Also, improvement in women's social and economic status has an impact on marriage behaviour. The traditional practice in China, that women tend to marry men of higher social status, means that women are waiting for those men to reach a certain level of wealth when they can meet their consumption aspirations. Another factor associated with later marriage is the soaring cost of housing in cities. A survey[34] found that 92% of women indicated that a stable income is required for marriage, and 70% indicated that they would only marry a man if he owned a house.

CHINA'S OWN MIGRANT WORKERS

Despite the promising outlook for this group, at present time for a segment of this group, the situation is very different. Currently for many people in this class finding work opportunities means a move away from home. An overwhelming share of China's working population are migrant workers. An estimated 200 million people in China have migrated away from their hometowns to find employment. Consequently, research estimates that about 100 million children are left without their parents. A lot of them are staying with their grandparents, and even 4% of children in their teenage years are living alone[35].

The societal impact must be significant but is out of scope for this research. We find this relevant to mention because it influences the way people in this large working class live. The majority live in 1-person households and often in company dormitories. They tend to save as much as they can to send home to their families, thus financially feeding the peripheral economies.

BUYING BEHAVIOUR

Surveys show that emotional benefit, personalisation, better service and experience, and convenience have become important motivations for younger working-age consumers in China. These consumers are increasingly motivated by the personal enjoyment of spending their hard-earned cash and are more likely than previous groups to see such consumption as a way of rewarding themselves. On November 11 (Singles Day in China and a major nationwide shopping event) online marketplace Alibaba reported sales of over €18 billion in 2017[36], a record for a single day anywhere in the world.

34 Chinese Ministry of Civil Affairs
35 IKEA study 2015
36 Alibaba

People of working age in China want to spend money in stores that offer superior service and a better customer experience. These consumers care about quality and are willing to spend more on branded products with a high brand value exposing high quality.

A search for convenience is another priority that is emerging, and it is an important consideration for companies seeking to serve this group of consumers. This group would be prepared to spend more money if that would save time when buying a product or receiving a service[37].

Successful companies are well connected in the social network, called "Guanxiwang". This is an informal network tracking the reputations of individuals and companies as a whole and is considered to be a key element for conducting business and building a consumer brand. Especially foreign entrants should be aware of the importance of building a reputation in this network.

Consumer habits for food shopping in particular are largely local and deeply entrenched in society and culture. Supply-side factors such as informality and public policy play a key role in determining what types of formats will attract shoppers. New foreign entrants face great challenges to compete against dynamic local players, especially if they lack a deep understanding of their target markets. This is evident in the failure of most multinational grocery retailers when they wanted to expand to emerging markets like China and India. The expectation was that in every country the retail landscape would eventually consist of a combination of modern formats: full-line supermarkets, hypermarkets, convenience stores and discounters. These assumptions have been proven wrong. Traditional trade in China has proven remarkably resilient to their entry and hardly suffered at all.

NORTH AMERICA'S WORKING-AGE POPULATION

This group of consumers illustrates North America's working-age population, which comprises people aged 15 to 59 in the United States and Canada. This is a large consumer segment whose numbers and per capita consumption are continuing to increase. By 2030, consumers in this age group will include generation X consumers (born between 1970 and 1985), millennials (born between 1985 and 2000), and digital natives (born after 2000).

This group includes the first generation that risks not doing as well economically as its predecessors. Millennials were hit hard by the 2008 recession. Average income among these consumers is somewhat below the average of the generation immediately before them. With the rising cost of education, they also have high levels of student debt. All of this adds up to lower than average purchasing power and for many individuals, cost consciousness in decisions, from where they live to how they watch television and how they consume health care.

These individuals are marrying later and becoming parents at older ages than their own parents. These consumers are more likely to trust an online review community than the company selling a product and service. Once they make a purchase, they want it delivered immediately.

CORE DRIVERS

The North American working age population is a large group whose numbers are expected to expand by 7%, from 180 million in 2015 to 191 million in 2030. In comparison, the number of people in the third group (retired and old mature markets) will increase by 30%. The United States is currently home to 91% of this group and will account for 94% of the projected 11 million increase in

population, with Canada accounting for the remainder, in 2030.

North America's working-age individuals will account for more than 16% of global consumption in 2030, ahead of their Chinese and Western European counter-parts and second only to the retiring and elderly population in developed regions.

Individuals of working age in North America comprise the largest group measured by share of consumption today. Their size and purchasing power have made it the single largest consumer group in the world in recent decades, and its members' behaviour has shaped global consumption. But while the consumption momentum of these consumers remains solid, growth is slowing, and their share of global consumption is expected to decline from 21.2% to 16.5%. Furthermore, the large group of millennials that will be the largest subgroup within this North American working-age population by 2030 has been hit particularly hard by the global recession of 2008 and the slow economic recovery since. This economic pressure on many of these individuals has had a substantial impact on their consumption compared with earlier cohorts, and the experience of previous generations suggests that this impact may prove durable.

To summarise, the economic squeeze is the fact that this group has high levels of student debt, reflecting the rising cost of going to college and greater numbers enrolling. In 2000, total student debt in the United States was close to $100 billion. By 2014, this had increased tenfold to more than $1 trillion!

Many are finding their incomes squeezed, are grappling with high student debt, and have little savings or financial assets. This constrains their discretionary spending and makes them cost conscious even when purchasing basic goods and services. Many working-age consumers in North America display cost consciousness across sectors, reflecting the economic strain which they find themselves under.

It could be that, when the economic environment improves, a certain amount of postponed demand could be unleashed, and these consumers will adopt the type of behaviour typical of previous generations.

However, there are reasons to suggest that consumption patterns and behaviour may not entirely revert to those of past generations. One reason is that there is strong evidence that unemployment during the early career years has a negative impact on earnings prospects in the long term, as income lost during the recession and its aftermath could lead to permanently lower incomes for those affected. Also, attitudes shaped by economic circumstances when people are young tend to "stick." The frugality and cost consciousness on display could prove permanent in a similar way to the behaviour of the hero and silent generation vs. baby boomers of the 1900s.

ETHNIC CHARACTERISTICS

About 15 percent of today's 20 to 34 year-olds in the United States were foreign born (this age group is the larger group within North America's working-age population and comparing it to earlier groups can help tell us how the working-age is going to be by 2030).

An increasing number of ethnically Hispanic citizens in this group is another major change. The share of Hispanic young adults in the United States in this age demographic tripled from 7% in 1980 to 21% in 2012. In Canada, 19% of 15 to 44 year-olds were non-white minorities in 2006; by 2030, this share is expected to nearly double to 36%. Certain categories of consumer products including baby food, haircare products, and dried food and vege-tables are particularly popular among Hispanic shoppers.

LIFE STAGES

Those of working age in North America are going through different life stages or milestones, such as finishing their education, having a first child, getting married, or buying a first home, later than earlier groups did. This is having an impact on the pattern of their consumption. Home ownership among US millennials declined from 42% in 1982 to 37% in 2014. Many researchers have pointed to their reduced desire to own a home. But there appear to be deep societal, demographic, and economic trends involved, including delayed marriage. The share of married young adult households has fallen from 54% in 1982 to 36% in 2014. At the same time, the share of young adults living with their parents has risen from 30% to 36%, between 1982 and 2014; a change that likely reflects the economic realities rather than changes in preferences.

BEHAVIOURAL PREFERENCES

Consumers that have grown up in the era of technological connectivity trust their peers when judging whether a good or service is worth buying, rather than relying on information from the companies and organisations that provide them. An important trend is their desire for immediate delivery of those goods and services.

The National Opinion Research Centre of the University of Chicago has been asking the question, "Generally speaking, would you say that most people can be trusted or that you can't be too careful in life?" Strikingly, the proportion of respondents aged 18 to 29 who responded "can trust" has fallen by half, from 41% in 1984 to just 19% in 2014. This generation of North Americans is so eager to gather information from their families, friends, and communities on what to buy. Websites and reviews have become an integral part of product discovery and selection process for young adults

whose lives are, in any case, lived through mobile and online channels, and who increasingly use those channels to shop.

RETIRED AND OLD IN MATURE MARKETS

In Western Europe and Northeast Asia (excluding China), the only growing age group is those who are 60 and over. In North America, this age group will account for 60% of overall population growth. The highest growth in the numbers of consumers in this category will be in the United States and Western Europe. This segment will grow slower in Northeast Asia because the population in Japan and South Korea is already relatively aged[38]. Also, outside the developed countries, the one retiring and elderly segment among the consumers to watch is the 215 million people in China aged 60 and older.

The developing retiring and elderly will be very important to global consumption growth in the period till 2030. The number of people in this age group will grow by more than 30% from 164 million to 222 million. As a result, they are responsible for 51% of urban consumption growth in developed countries, or €3,7 Trillion, in the period to 2030[39]. That is 19% of global consumption growth.

This first group is relevant to monitor because of the high number of baby boomers entering the 60-plus age group in the period to 2030, and the rapidly growing number of those who are aged 75 and older. These people largely belong to the generation born in just after World War II when the birth-rate spiked. The number of people who are aged 60 and older will grow by more than one-third till 2030 and will likely continue to have high per capita consumption compared to other age groups. As an example, in New York City, the overall population is expected to increase 13,9 %t till 2030, while the elderly are projected

37 Alibaba Research

38 UN DESA

39 World Bank, UN

to increase by 44.2%[40]. By 2030, every baby-boomer will be at least 65 years old, and the share of the population that is elderly will increase to 14.8 percent in 2030. In addition to the aging of the baby-boomers, increasing longevity in the last ten years of the projection allows more people to survive to successive age intervals.

Across the regions, the group show great similarities in behaviour and consumption patterns. The retired and old consumers form a group that is more urban, more ethnically diverse, more educated, and definitely more tech-savvy than the 60 plus age group in previous generations. The expectations industry players have of this group are big and profitable, however we found reason for caution. Although the group has many similarities, they are also dispersed in for example their incomes and readiness for retirement.

POLARISATION OF DISPOSABLE INCOME

There will be many retiring and elderly with plenty of disposable income who will be able to afford leisure activities or a desire for luxury goods. But there are many others who do not have sufficient savings to make it through retirement, who are worried about their finances, and who are working beyond the standard retirement age out of necessity.

The baby-boomer generation that is retiring after 2030 has been the largest consumer group in North America and Europe and has saved relatively little. Moreover, this is the first generation that has been primarily responsible for its own savings for retirement. This means that many boomers are not financially prepared for a comfortable retirement. Many of them face a choice; delay retirement or scale back their spending in order to make ends meet and make savings

last throughout retirement. The distribution of accumulated wealth also indicates varying retirement readiness. In the United Kingdom, 40% of the retiring and elderly have a net worth of less than €280,000, while nearly 25 percent have a net worth above €675,000[41] of which in most cases the money is locked in assets like the home they live in. Japan already has the world's highest public debt to GDP ratio, so keeping the pensions at a level will be a challenge for future policy makers. Japanese consumers in this age group indicated in a survey that they were making ends meet but having to make adjustments. A single Japanese retiree with minimal savings has living costs more than 25% higher than the basic state pension of €3,700 a year[42]. Japanese crime figures show that about 35% of shoplifting offences are committed by people over 60 of whom 40% have committed the same crime more than six times allegedly to gain access to free housing and food.

This income polarisation spans all three investigated continents and stresses that a one-size-fits-all strategy to address this age group will not work. Companies will need a tailored approach to the segments within the segments to capture a piece of the value this target group can provide. Understanding who they are and where and how they live is one.

ETHNIC DIVERSITY OF THE 60 PLUS GROUP

This group of consumers aged 60 and over is becoming increasingly ethnically diverse in Western Europe and North America. In the UK the non-white share of the 60 plus age group increased from 1.6 percent in 1991 to 3.3 percent in 2001 and 4.7 percent in 2011[43]. In the United States, the non-white share of this age group even increased from 13 percent in 2000 to 16 percent in 2014. This trend is most likely to continue. Increasing ethnic

diversity has implications for certain product categories.

For instance, this trend is already transforming the housing market in the United States. Demand for multi-generational housing is increasing.

This type of housing is expected to account for 20% of growth in US housing demand in the 65 plus age group[44]. Demand for such housing is stronger in cities such as Houston, Texas, which has a fast-growing and ethnically diverse elderly population. This could imply a positive trend for ornamentals as in such family settings people tend to spend more time in and around the house and potentially develop a demand for beautification of the outdoor spaces like garden or patios.

LIFE STAGES OF 60 PLUS

Several important life-stage changes can be identified which most individuals face after they turn 60. Some of these are choices that an individual can make, including whether, and when, to retire, or whether to venture into another job or to start a volunteer career. Other changes may be less predictable and out of control such as a divorce, a spouse dying, or whether, or when, they may need assisted living. All of these changes directly affect behaviour and consumption. The age at which people retire matters for consumption because when people stop working and earning, their spending and schedules change. Spending linked to employment such as clothing, transport, and time-saving services, tend to decrease, while spending on leisure categories such as reading or personal travel tends to increase.

Daily time spent on leisure and sport each day in the United States is expected to increase by 210 million hours by 2030, and this age group will account for 195 million of those hours,

the equivalent of 24 million full-time jobs[45]. In the United States this target group spends more than €65 billion on travel, over €84 billion a year on entertainment including sporting events and concerts, and more than €80 billion on restaurants[46]. Significant segments of the target group are not content to accept the average, they want *"more professional, premium, or sassier versions"* of goods and services[47].

HOUSING OF THE 60 PLUS

More single people living alone increases demand for housing among this age group. Demand for alternative living arrangements such as cohabitation and group living is likely to increase. elderly individuals living alone in the United States dedicate 40 percent of spending to housing, significantly higher than the 32 percent share their coupled counter-parts spend[48].

Lifestyle and housing preferences are also changing. Additionally, to the trend of rising demand for multigenerational homes in specific areas, other areas see individuals who want to grow old in their own homes, generally referred to as Age in Place. They have a strong sense to remain independent for as long as possible. Staying in the same house means a growing market for home refurbishment and adjustments to cater to physical limitations. This trend also implies that this target group is aware of keeping the same outdoor spaces and garden, which as a consequence opens a market for garden design and services to an outdoor space with easy access and low maintenance.

CONCLUSION OF THE DEVELOPED WORLD 60 PLUS

Despite the regional differences and variations within this group; the group as a whole is highly relevant for the future of ornamentals. In some ways the consumption habits of this group will show patterns of previous generations as they can spend selectively and carefully. In other ways however, and across all three continents, they are eager to defy stereotypes regarding elderly consumers; they will use technology at rates closer to those of younger generations, seek more active lifestyles and vacations, and show a willingness to spend on good design and higher-cost items when their savings can support it. This is a group of consumers that the ornamentals industry should not ignore.

40 City of New York
41 United Kingdom Office for National Statistics
42 Tokyo Custom Products Research
43 UN department of Economic and Social Affairs 44 NORC General Social Survey
44 NORC General Social Survey
45 US Bureau of Labor Statistics
46 Peter Francese, The Grandparent Economy
47 Packaged Facts, US Baby Boomer Attitudes and Opportunities
48 US Bureau of Labour Statistics, Consumer Expenditure Survey 2013

11 | IMPLICATIONS OF CHANGING DEMAND FOR ORNAMENTALS PRODUCTION

This research has established that change in demand and production is inevitable. In the next decades a variety of macro factors will cause consumers to live different lives than the generations before them and they will develop different behaviour leading to different purchase decisions which are likely to impact ornamentals. That change in demand raises the question of whether the ornamentals industry should reconsider the way it positions itself.

It is widely accepted, and taken for fact, that the world is urbanising at an increasing pace, and that we humans have an innate tendency to connect with nature (which is called biophilia). The irony of these two is that they result in a paradox that may hold the greatest opportunity for growth of the ornamentals industry.

While the world as a whole will see a tremendous increase in consumer spending, it is the challenge for the ornamentals industry to capture its fair share of this growth in the following segments:

a) **Governments**, stimulated by the general public, will develop an increased demand for urban green space, which will affect government policies on all levels from national ministries to city councils and even local neighbourhood action committees. As an example: areas with green space are seeing lower crime rates, increased property value, and lower demand on health services.

b) **Consumers** themselves will recognise the economics and health and well being benefits of greening their own living space.

Examples are; reduced costs and loss of life quality by illness, less anxiety or mental stress, an increase in property value and better performance of children at school.

c) A broad range of **private sectors** is expected to recognise the economic benefits of green space and integrate flowers and plants into their business models. As an example, the recovery rate of patients in a green surrounding inside a hospital is shorter because of the connection to nature.

When assessing options to capture that demand it is obvious that the industry will face opportunities and constraints on the supply side and production base. The main question is if the production side of the current value chain is resilient enough to

deal with the changes ahead. For this assessment we have taken the country selection model as a framework. Each of the four categories has a different stake in the global ornamentals market, but they generally can be divided in two: a net importer or a net exporter. The importers will see a value chain with economic benefits concentrated in retail, wholesale and services, whereas the exporters see a value chain around growers and farm inputs. The obvious exceptions are the mature domestic producers who by tradition have grown to be home to the entire value chain.

In this part of the research we have only covered a select number of

producers; the dedicated report workbook on production contains a more comprehensive overview.

The researchers have taken data from secondary data and series of interviews with local players in the respective countries. In general we present a set of factors that influence the ability of a country to maintain or develop the production volume, combined with the rationale of their trading partners on the demand side. As an example; while demand of a trading partner may boom, a large number of constraints potentially inhibit the producers from capturing their share.

WE HAVE STUDIED THE FOLLOWING FACTORS ON THE SUPPLY SIDE, HOWEVER NOT ALL COUNTRIES HAVE DATA CONSISTENTLY AVAILABLE:

- Climate & natural resources; water, land, energy
- Availability of farm inputs; consumables, fertilisers, chemicals etc.
- Access to finance; attitude of banks and lenders to finance growth
- Government regulations & policy; regulations, taxes, subsidies, labour

- Trade barriers; taxes and phytosanitary regulations
- Labour; availability of skilled and unskilled workers and labour cost
- Supply chain and logistics; interconnectedness of the production areas with local and global hubs
- Natural events; sensitivity and resilience to natural disasters and climate change

- Positioning and differentiation: ability to grow unique crops or varieties to serve specific markets, or only compete in the mainstream.

To illustrate this, here are two examples of implications:

WATER & RESOURCES

The scarcity of natural resources is driving many industries towards a transition to alternative, more sustainable production systems. The ornamentals industry is in some cases applauded as an example of sustainability, and in others criticised for use of chemicals, intensive water use, or lengthy supply chains. As in any industry, it eventually comes down to the responsibility taken by individual players who are either pushed by regulations, or an intrinsic drive. In all cases it is clear that in a more transparent world, consumers, retailers and governments will develop a stronger demand for sustainably produced ornamentals. Some producing countries will be able to keep up by introducing more efficient production systems, while others will lag behind due to lack of availability of resources, or lack of investment capacity to get on par with competition.

POSITIONING

The past decades a very large number of academics have researched the benefits of green on humans. One of the key researchers and a strong advocate of increasing awareness for the benefits of green is Prof. Dr. Charles Hall of Texas A&M. In one of his articles he presents two not-so-well-known, but insightful economic principles that are relevant to consider when assessing the opportunities ahead for the ornamentals industry:

1. Expenditures rise to meet income (C. Northcote Parkinson)

2. People afford what they want (Lowell Catlett).

The ornamentals industry's job (growers, service providers, and retailers alike) is to make sure they are providing #2 in such a way that they capture their fair share of #1. Stated slightly differently, if the green industry can position itself in such a way that its products/services are considered as necessities in people's lives and not mere luxuries, that is the best offense to deal with the change in buying motivations and likely keeps flowers and plants on the shopping list, even in times of economic downfall.

The value proposition for the green industry in the future must focus on the unique ways in which quality of life is improved for consumers. Much research has validated the emotional and environmental benefits of flowers, plants, and trees. In a nutshell, green industry products and services improve emotional health, boost seniors' wellbeing, enhance hospital recovery rates, enhance employee innovation and ideas, strengthen feelings of compassion, decrease worry and anxiety, express feelings of compassion, build stronger communities, mitigate environmental externalities, and improve the economic value of homes— just to name a few of the benefits.

The ornamentals industry cannot overemphasise the importance of this quality of life message, particularly in focusing its differentiation strategies in the future. That because of whether one are member of the Boomer, Gen X, or Gen Y generation, quality of life is a "higher order" need that is important to them. For example, although the economic downturn has increased anxiety on the part of Baby Boomers about retirement, they are nevertheless proactive in seeking innovative solutions to dealing with age. They view their new stage of life as one of activity and fulfilment rather than idleness.

Gen X is the most "time-starved" generation, often juggling career and family obligations, but they maintain a strong commitment to work-life balance in their lives. The Gen Y generation is just beginning their adult lives and facing lots of firsts: their first home, first job, and most importantly, first independent income. They are trying to find the right balance between spending for necessities and spending for entertainment. This generation is concerned not just with function and utility but also with style.

All of these generational attitudes come down to one thing – enhancing the quality of their lives through emotional well-being, ecosystems benefits, and economic paybacks. Research shows that there's no better way to do this than through the daily use and/or enjoyment of flowers, plants, and trees. All the green industry has to do now is convince consumers of this in a manner that they view their products and services as necessities instead of luxuries. This will, of course, make the industry even more recession resistant in the future.

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13 | APPENDIX

THE STRUCTURE OF THE EXPERT COMMITTEES

OBJECTIVE

To validate and enrich the research findings of the IVP research team. Additionally, the Expert Committee is expected to provide insights in the trends and developments from their playing field perspective in their region's ornamentals industry as a whole.

ORGANISATION

The committee reports to the Steering Group and is supported by the IVP program director who reports the findings to all stakeholders with AIPH.

FOCUS AREA

The Committee includes the entire value chain from breeders to retail of ornamentals and take external influencers like national, state and local governments, academics plus NGOs into account. Where available consumer insights are also appreciated and will be integrated.

OPERATION

The program director presents the committee with specific quantitative data and qualitative insights in preparation for any meeting. On an individual basis, members will be asked specific questions for feedback, validation and enrichment of the presented information. In addition, one annual Expert Committee meeting will be held to define consensus on status quo and a 1 year outlook. With this format, the outcome is likely to be representative for the market as the key players have jointly defined the main trends of the past year and the coming year(s). In between the meetings, the committee works mainly virtual where members can regularly be contacted individually by the program director to resonate with.

MEETINGS

The Committee convenes once or twice per year at a location tbd. Likely adjacent to a major industry event and/or during the AIPH Annual Congress.

APPLICATION

The generated insights will be available to the members of the committee and selectively used in AIPH publications, like the International Statistics Yearbook and other AIPH affiliated outlets.

COMPOSITION

Every committee will contain the key players along the value chain (including research and government) of the geographic area.

STRUCTURE

For the purpose of embedding the feedback of insights into AIPH, it is essential to set up a global network of such experts on every continent.

GLOBAL CONSISTENCY

It is obvious that the consistency of data and insight among the committees will significantly vary due to the volume and reliability of available data which is extremely different between mature (demand) markets in North America, Europe and the emerging (producer) markets in the southern hemisphere.

TOOLS

To achieve a time and cost efficient operation, we suggest to explore digital solutions to support the work of this global constellation of experts. In general we need the following:

- Database to present the members with the latest findings and for them to conveniently check / refer to historical data and previous presented research or sources used.

- Survey tool that can achieve an optimum level of consistency within a committee and across all committees.

- Member Area that can show the profiles of all global members and researchers.

Expert Committee North America

Expert Committee ASIA

Expert Committee Europe

International Vision Project Steering Group of AIPH (and partners)

Expert Committee Latin and Central America

Expert Committee Africa

IVP REPORT

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